The Analysts Journal

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GENERAL SYSTEM

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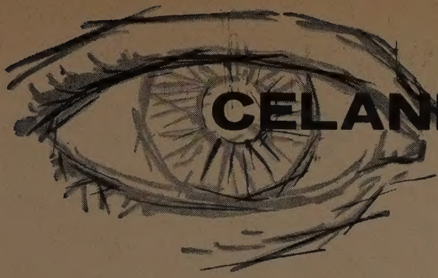

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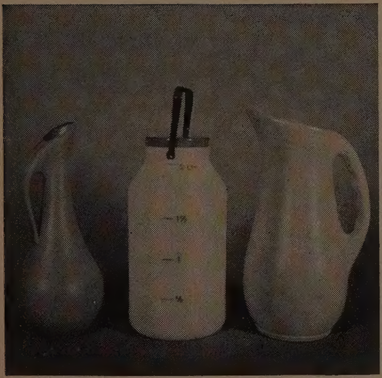

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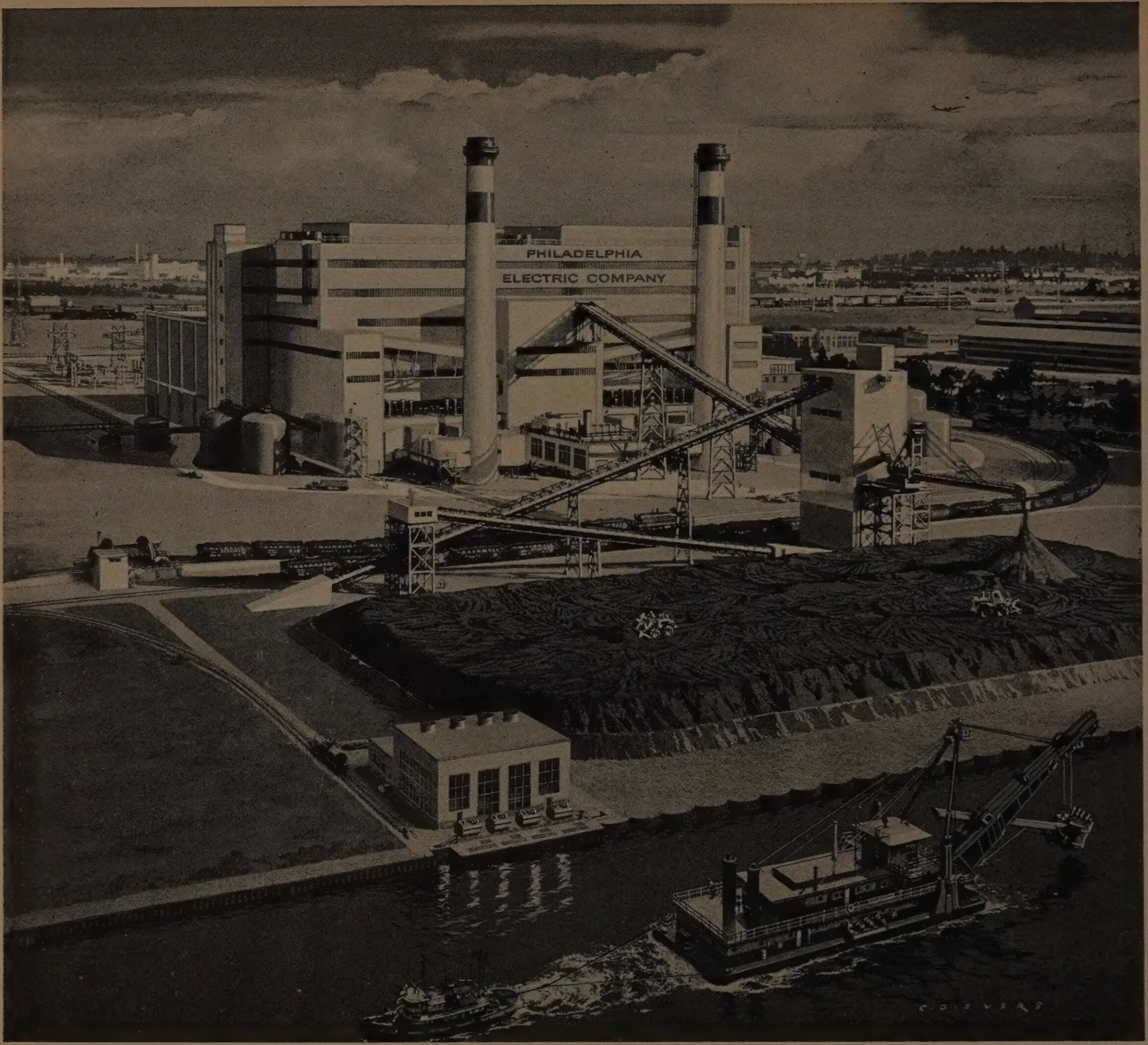

Artist's conception of new Eddystone electric generating station, which will soon be in operation near Philadelphia.

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Detroit's Financial Analysts Survey The Analysts Journal

Members of the Financial Analysts Society of Detroit have furnished us with some highly-interesting detailed information which will help your editors to publish more articles of value, articles which will enable the readers to synchronize this information with their professional needs.

Spearheading this survey was Robert W. Storer, vice president of the Manufacturers National Bank of Detroit.

And on the basis of answers to the questionnaires sent to all Detroit Analyst members, it is apparent that these Analysts are particularly interested in articles about institutional investment practices and policies, as well as the methodology of investment analysis. And high on the list was evidence indicating an interest in articles about business cycles.

In view of our extended series on commodities—the third one appears in this issue—we were particularly pleased to note that there is such a wide interest in commodities and individual industries. (Incidentally, when the commodity series is completed, we plan to publish the articles in book form).

Answering one of the questions as how *The Analysts Journal* could be improved, several members suggested more frequent publication. That we anticipated; and, as stated in our August issue, this magazine will be published every-other-month commencing January 1960.

Then, too, it was interesting to note how many members suggested a correspondence column. In fact, Mr. Storer also put in a strong plea for such as a feature in each issue. So, as of next January we'll inaugurate this feature under some such heading as "From Our Readers." And since we know that certain Detroit members are interested, we'll expect several letters from the automotive city on Lake Michigan. Our address is to be found just below this editorial.

A few of the Detroit Analysts indicated an interest in articles about individual stocks. However, for numerous obvious reasons, adoption of a policy which would lead to inclusion of individual stocks within our pages, would put us in a definitely untenable position. But if some individual stock stands out, say in the listing of a table, or in chart form, we have no objection to including it as such. *The Analysts Journal,* like Caesar's wife, must be above suspicion.

One member recommended a special department for young Analysts. We believe that this objective is already accomplished in practically every issue, for we are cognizant of the fact that a fair percentage of our readers are in universities; and still more are beginners in the world of finance. Interestingly enough, following publication last May of an article about "Puts and Calls," we were most pleasantly surprised at the number of letters asking for reprints. And one letter was from a well-known West Coast Analyst who—despite many years in an executive position for a well-known investment firm—said he'd found the article most interesting and highly informative. Frankly, we published that article with the younger Analysts in mind. We will continue to keep the young Analysts in mind.

Finally, we were amused by what we suspect was just a bit of old-fashioned horse-play on the part of our good friend Bob Storer. One of the questions concerned "comic relief." Well, frankly, this is a field in which we'll never excel—and we face it with quiet equanimity. But Analysts are people; and from time-to-time, as we smile at an author's pungent observation, we hold our blue pencils aloft, and proceed to read copy without altering a single word. For instance: see the final paragraph in this issue's article about "High Finance in Coffee." It concerns all Analysts?

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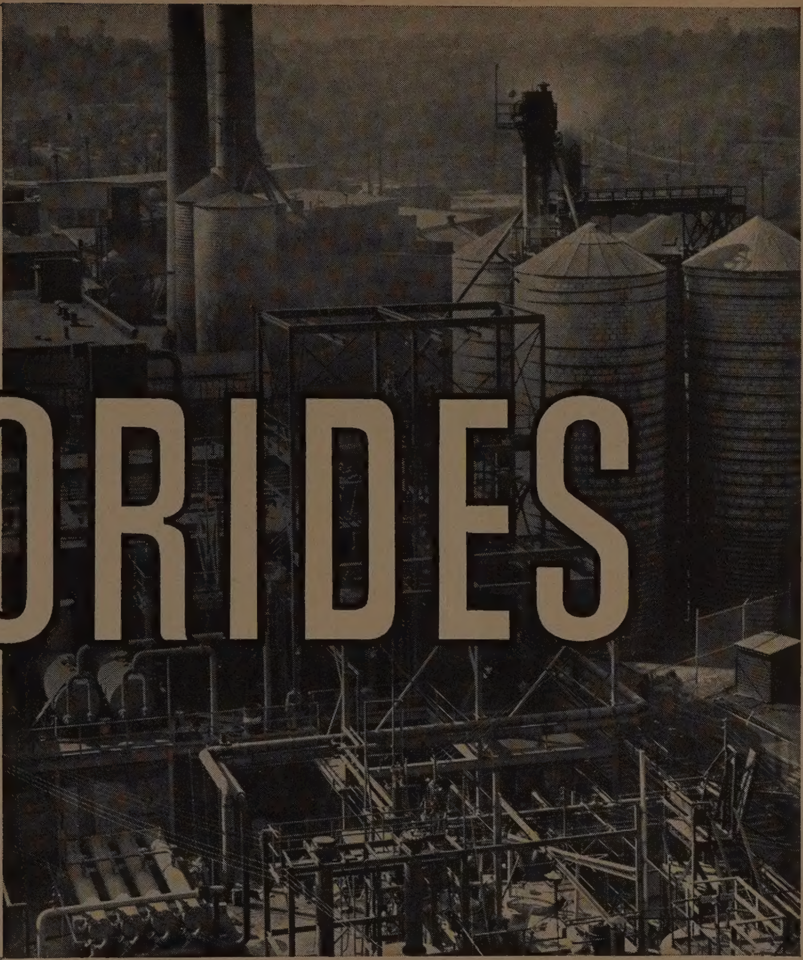

Unloading mineral fluospar which comes to us from various parts of the world.

SILICON TETRAFLUORIDE
ANOTHER FIRST FOR HARSHAW

Harshaw's newest fluoride is silicon tetrafluoride. One of the major oil companies has just developed a process for sealing water out of oil wells during drilling with this newly introduced fluoride.

In 1904 when The Harshaw Chemical Co. first started to manufacture hydrofluoric acid, all of the production was used by foundries to remove sand from iron castings. Today, Harshaw's fluoride division produces 26 different fluoride chemicals for as many industries.

The major uses of Harshaw Fluorides are in the petroleum, glass, steel, and atomic energy industries. Even in these industries the uses are diversified. The versatility of Harshaw fluorides is also evident by their use in soldering fluxes, cleaning boilers, removing iron stains and souring laundry, curing plastics, alloying aluminum, floating minerals, sanitizing breweries, and treating water.

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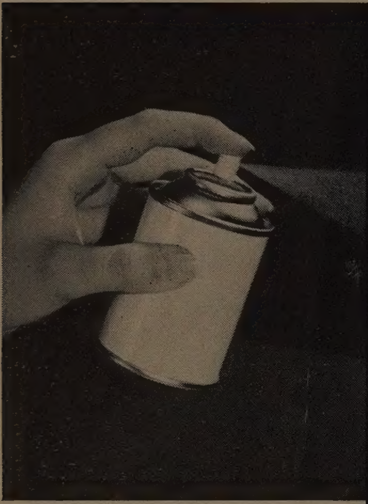
Manufacturer's Manufacturer

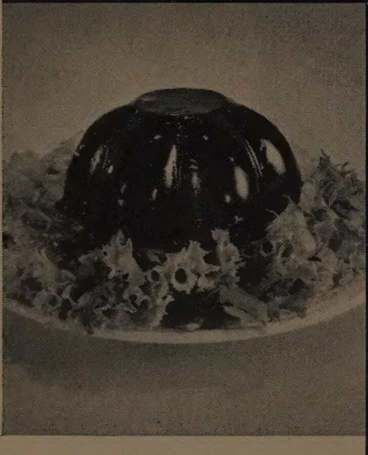


A valve of this aerosol container is smaller than a contact lens and about as precise. Ohio Rubber Division of Eagle-Picher mass-produces such precision rubber parts with plus or minus tolerances of 0.002 of an inch.

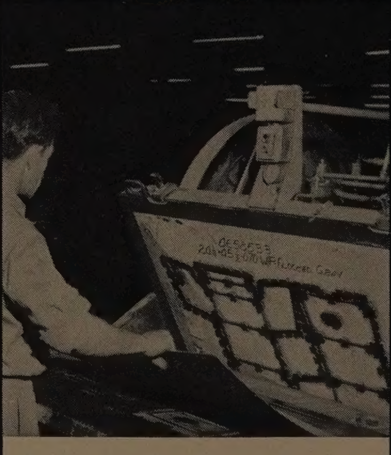
Magnetic drum memory unit of a computer can remember millions of facts fed to it by circuits in which Eagle-Picher electronic grade germanium performs essential functions.

Ruggedness, compactness and reliability characterize the special purpose electrical power supplies developed by Eagle-Picher for use in missiles, rockets and sound detection apparatus.

. . . Growth through planned diversification

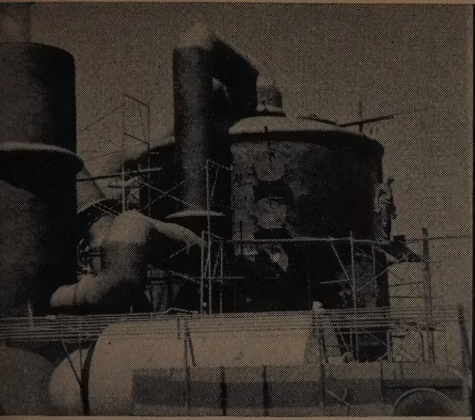


What gives the gelatin its jewel-like clarity? Chances are, in the manufacturing process, it was filtered in liquid form through an Eagle-Picher diatomaceous earth filter aid.



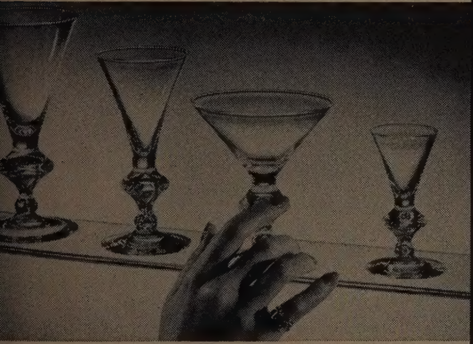
A volume supplier of automotive parts, Fabricon Division of Eagle-Picher manufactures trunk liners, cowl trim panels, sun visors, glove boxes and other components.

The "new look" that stays new is typical of porcelain enamel signs. Chicago Vitreous Corporation, a division of Eagle-Picher, manufactures frits, the basic material of porcelain enamel.

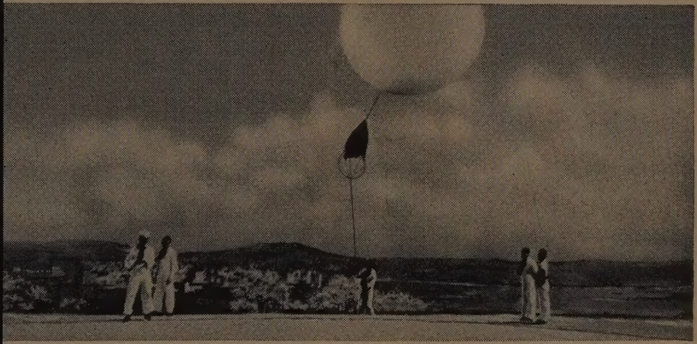


Maximum thermal control is achieved with Eagle-Picher insulations at a modern chemical plant. Applications of full line of insulations range from sub-zero to 2300 F.

Storm windows are "show windows" when they're as smartly styled as Eagle-Picher enclosures. There are three complete lines, all carrying a Triple Guarantee of Satisfactory Performance, including the Good Housekeeping Seal.



Lead and zinc compounds from Eagle-Picher are widely used in glass and ceramic manufacturing.



Men from the National Observatory send up a weather balloon. It carries equipment operated by an Eagle-Picher special power supply.

EAGLE-PICHER Divisions and principal products

Fitting your production schedule closely, smoothly and quickly is a special talent of the manufacturer's manufacturer. Eagle-Picher's ability in this area is a compound of skills acquired in serving many industries and adapting to the widest variety of production situations. Many hundreds of leading manufacturers have found Eagle-Picher's capability so flexible it seems made for them. And it certainly is! Perhaps you too may, find our varied knowledge of value to you.

CHEMICAL DIVISION—Zinc and lead pigments and oxides ★ Special purpose electric power supplies ★ Sulphuric acid ★ Electronic grade germanium, gallium, Cadmium Sulphide ★ Cadmium.

INSULATION DIVISION—Insulating cements, blocks, blankets, felts, pipe covering ★ Aluminum storm windows and doors ★ Diatomaceous earth filter-aids, aggregates, absorbents, catalyst supports.

FABRICON PRODUCTS DIVISION—Automotive parts, such as door trim panels, trunk liners, dash insulator mats and glove boxes ★ Waxed paper, cellophane and polyethylene ★ "Lamin-Art" decorative plastic sheets ★ Custom impregnated papers, textiles and glass cloth ★ Molded plastic parts.

CHICAGO VITREOUS CORPORATION—Porcelain enamel frits for home appliances, plumbing ware, lighting fixtures, architectural paneling, outdoor signs and other products requiring protective finishes ★ "Lusterlite" all-porcelain enameled gasoline service stations.

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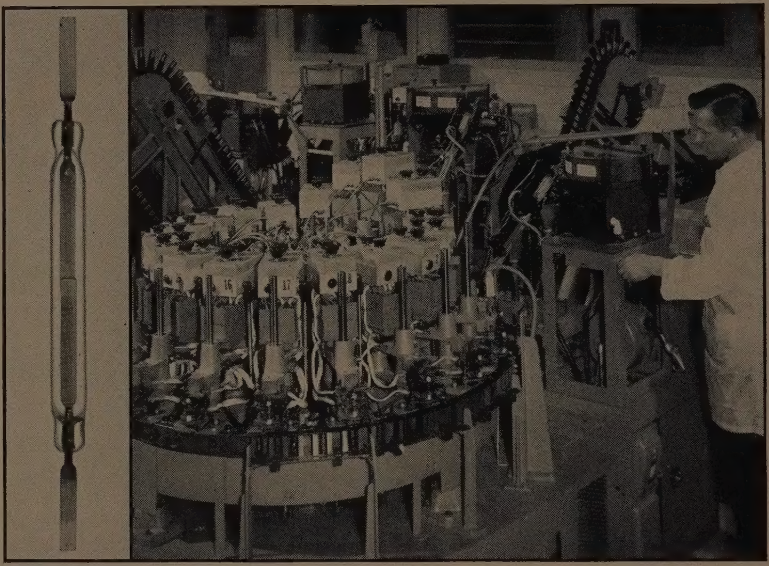
Direct Distance Dialing is an example of the value of unified research, manufacture and operations



EXAMPLE OF TEAMWORK. At left is new fast-moving switch (actual size) used in Direct Distance Dialing. Many of them go into action automatically every time you dial. Enclosed in gas-filled glass tubes to assure perfect contacts. Made to last 40 years. The result of Bell Telephone Laboratories and Western Electric working together to get the best and most economical design. At right is remarkable new machine, designed by Western Electric, which automatically assembles 360 switches an hour at a very small cost.

There are great advantages to the public and the nation in the way the Bell System is set up to provide telephone service. It is a very simple form of organization, with four essential parts.

Bell Telephone Laboratories does the research.

The Western Electric Company is the Bell System unit which does manufacturing, handles supply, and installs central office equipment.

Twenty-one Bell Telephone operating companies provide service within their respective territories.

The American Telephone and Telegraph Company co-ordinates the whole enterprise and furnishes nationwide service over Long Distance lines.

Each is experienced and efficient in its own field. But the particular value of each is greatly extended because all four parts are in one organization and work together as a team.

Direct Distance Dialing—one of the greatest advances in the speed and convenience of telephone service—is an example of the value of this unified setup.

Already more than 8,000,000 telephone customers in more than 700 localities can dial direct to as many as 46,000,000 telephones throughout the country. Each month there are more. Millions of others can dial direct over shorter out-of-town distances. Calls as far as 3000 miles away go through in seconds.

All of this didn't just happen. It called for years of intensive planning, the invention of wholly new machines and equipment, and the development of new operating and accounting techniques.

Research alone couldn't have done it. Neither manufacturing nor operations separately could have done it. And just money couldn't have done it, although it takes money and a lot of it for telephone improvement.

The simple truth is that it could never have been done so quickly and so economically without the unified setup of the Bell System.

For many a year it has given dynamic drive and direction to the business and provided the most and the best telephone service in the world.

BELL TELEPHONE SYSTEM

Economic Outlook for the 1960's

by Mendon W. Smith

FOLLOWING ARE EXCERPTS from a recent letter to one of our clients concerning the current outlook for the economy and the stock market. This particular account has a heavy holding of common stocks which show substantial profits today. After commenting on this, I wrote:

It may be possible, but very dangerous, for everyone to strut around and claim to be a big hero on such a showing. We did have the courage not to sell when the market was down a year or so ago—which is something. Now that the almost unanimous opinion is to hold or buy, I wonder if it is not the time for a little judicious selling?

Let's start with the generalities. Has the long term outlook changed? As we approach the 60's do they look as golden as they were promised to be a few years ago? I think that it is possible to suggest that on closer inspection, the actual experience of the 1960's is going to be somewhat less wonderful than we have been led to expect. In no case do I mean that we are going to have a strongly depressed period such as the thirties. By the same token, I do not believe that we are going to have a strongly inflated period like the late forties and early fifties.

What might be some of the major economic characteristics of the 60's?

(1) Increasing sales and increasing Gross National Product? Definitely yes. Population growth will certainly spur the economy on, particularly in certain areas such as public spending for schools, roads, sewers and the like. Private spending on homes, home furnishing, clothes, food, services such as doctors, dentists, airline fares, and consumer durables will increase *to the extent of the increase in disposable income in the hands of consumers*. This is an important qualification. Since the war, consumer spending has increased at a rate faster than the increase in disposable net income by an increase in debt. I believe that only a marginal stimulation can come from further increase in consumer debt during the next decade since there are very definite limits as to the carrying power of the average consumer of further debt charges.

Many Growth Probabilities

Disposable net income is not going to rise as fast as the Gross National Product (or gross earnings). The tax load is going to accelerate. The sharp population growth is now forcing large public spending, which must be paid for by increasing taxes. In addition, many governmental units, cities, villages and states have been supplementing annual budget expenditures every year since the war by drawing down reserves originally accumulated during the war. This has been happening in Ithaca and the State of New York, to cite two close-to-home examples. This has meant that current tax rates have been kept down by the amount the reserves have been used. Now the reserves are all gone (this is not entirely true for the city of Ithaca, thank goodness) and at the same time sharp increases in spending are ahead to service this new population. Tax rates would have had to be increased even if no increase in expenditures was budgeted. As it is, there will have to be double increases. Surely this point is obvious to an Ithaca resident with a $4 increase in the local school rate coming next fall, and the sharply higher New York State tax rates just imposed. To the extent that taxes increase, there will be less "disposable" income available for consumer spending.

Disposable income will go up, and consumer spending will go up. The total "pie"—Gross National Product—will go up most of all; but all these increases may be at rates of growth less than those prevailing after the war, for the simple reason that the inflationary stimulation of World War II is now finally behind us. Granted that the cold war will undoubtedly continue, its inflationary impact will be limited as long as we are currently taxed to pay for it. Large military expenditures will have obvious impact on specialized segments of the economy such as aircraft, electronics, etc.; but the total economic impact will be of an entirely different magnitude than the impact of the hot war of 1940-45.

The assumption of a more "normal", more deflationary period has much historical justification. Every major war we have participated in has been followed by inflation and then some sort of deflation. World War II was the largest war, and its effect lingered longest. This has booby-trapped some who have been expecting a deflation since 1947 or 1948. They have just now accepted the fact that they were "wrong". Perhaps they were wrong only in timing. Details always differ. Any deflation we have will probably not have much dramatic effect on prices and wage rates as in the past, because of real structural changes in the economy. As I will mention in a minute, the deflation of the '60's may be primarily expressed in some unemployment, less than capacity output and a cost-price squeeze rather than in any dramatic downturn in consumer prices or wage rates.

Over-capacity: 'Here to Stay'

(2) Continued inflation and a constantly increasing consumer price index? I am not so sure that current popular conclusions on this score are going to be ful-

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Mendon W. Smith, trust officer of the First National Bank & Trust Co. of Ithaca, N. Y., formerly worked in the Investment Analysis section of the City Bank Farmers Trust Co. of New York. Mr. Smith is a graduate of Harvard University.

filled. There are some important factors developing which are going to act as at least a brake on prices. Over-capacity is here to stay. By the time that demand "catches up" to current plant capacity, we will have built more capacity for demand to catch up to. The very potent position of the seller who has orders for years ahead was a product of the war and early postwar shortages. I don't think anyone will be in that position for long in the '60's. A price-conscious public with limited means is here again. Constant price increases can no longer be absorbed by lengthening repayment schedules or increasing wages. Short work weeks, higher taxes, higher rents, more kids' expenses, are all going to put continued pressure on consumer pocket books and therefore on consumer durable manufacturers to keep the prices "right".

The competition from foreign imports is getting stronger every day. Granted that we will probably turn to the government for more and more import controls to protect our domestic economy. Nevertheless, this whole process is deflationary, and should serve to hold prices in check. The growing efficiency of Western Europe, and its growing capacity to serve larger markets suggests an intensification of foreign pressures during the '60's.

Against these pressures must be measured the upward press of wages. This is the major "culprit" today for causing tomorrow's higher prices. But prices are double-barrelled. They are set not only in relation to costs, but in relation to supply, demand, and costs. I do not envy the managers of the 1960's who will be faced with a constant pressure toward increased costs, and with constant pressure to keep prices down so that their products will sell. The immediate result of these pressures will be: first, a more determined stand in wage negotiations when they know that all of the cost increases cannot be passed on; and, second, a continuous pressure on profit margins as consumers balk at higher prices and some of the increased cost is taken out of profits.

The argument that labor unions will force wage increases, which will force price increases, which means inflation, which means you should buy common stocks has always seemed too facile to me. In a "wage-push" inflation (to use a current cant term), common stocks offer little protection because net income and dividends are not likely to increase even if sales, selling prices, and wages all are up. The pattern of recent years strongly suggests that labor may get all of the benefit of price increases and the stockholder none—or even less than none.

There may be an upward pressure on prices during the '60's. However, such pressure will be met by counter-pressure coming from ample plant capacity, competition for the consumer dollar, and competition from low-cost foreign imports. While prices may rise slowly, it will be against substantial opposition. Costs, particularly labor costs, will continue to press on the economy, with the result that many a company may be able to show good growth in sales because of growth in physical volume and in prices, but may not bring much of such increases down to net income due to increased wages, increased state and local taxes, and other cost increases.

Millions May Remain Unemployed

(3) A "chronic" unemployment problem? The dimensions of this problem are just suggesting themselves. It is possible that I am falling into the old trap here of extrapolating the events of the past few months into a long-term problem. Only time will tell. We came out of the war with an average level of "unemployment" at 2 million men. This was obviously a bare minimum, since we had in reality an over-employed economy in the late forties; there were plenty of jobs for everyone. The recession of '48-'49 created substantial temporary unemployment, but with the Korean War unemployment dropped again to the 2 million figure. The recession of '53-'54 resulted in a seemingly permanent net increase in unemployment to an average figure of about 3 million. There are some indications that the last recession has left a residue of perhaps 4 million "permanently" unemployed. In addition to these disturbing facts, the labor force will be swollen in the '60's by the babies of the '40's, and unless our economy shows more absorbing power than it has over recent years, a rather high level of unemployment might go hand in hand with new records of G.N.P. and output. If this happens, it will increase labor demands for a shorter work week while, I suspect, in no way lessening their appetite for higher wage rates. Industries and companies, unable to modernize and put in new labor-saving equipment, will be hard put to stay afloat.

(4) Another war? What would be the effect of another limited war similar to the Korean War? The initial effect might see a new excess profits tax nullify any increase in earnings which resulted from the capacity output which the war would probably bring. With stock prices already at 18-20 times earnings, on the basis of future increases in earnings, the outlook of postponing any increases until after the end of the war might be disconcerting. Prices of stocks just before the Korean War were much more modestly priced than stocks are now—and consequently it is not too safe to assume a strong stock market such as occurred in 1950. During the actual fighting the market drifted sideways for three years, 1950-53.

The Question: Should We Buy Now?

(5) Whither the stock market? First some facts. The stock market has gone up four times since the end of the war while dividends and earnings have about doubled. Furthermore, most of the increase in earnings took place between 1947-50, the period of the heaviest postwar inflation. Dividends have risen slower, gradually narrowing the gap which appeared in '47-'50, when earnings shot up so fast. Essentially, then, price times earning ratios have doubled (from 10 to 20); and earnings and dividends have doubled. Multiply the two effects and the prices of stocks have quadrupled. This is

the background in our mind when we look at common stock prices today, a pleasant memory of vastly lower prices just a few years back—and the thought that we will never again be able to buy stocks at such bargain basement levels. In view of the long-range health of the economy, shouldn't we buy now, regardless of value, for fear that if we don't we will be left out of future fabulous rises?

Let us assume that there can be no further increase in price earnings ratios. Let's assume further that due to the general economic factors described above earnings and dividends will not, on the average, increase more than 50% over the next decade. Multiply these two factors together, and the result is a further increase in stock prices over the next 10 years of only 50%, not the 400% of the past decade. If evenly distributed over each year, this would mean an average increase in stock prices of about 4% per year! Somehow I don't think that this is what the average investor is looking forward to today.

Suppose, further, that as some of the more discouraging factors become more evident—consumer resistance, high costs, foreign competition, and so on—investors decide that equity invesmtents should be valued at 15 times earnings instead of 20? This would practically wipe out any increases which might be coming on account of higher earnings and the decade would end with common stock prices about where they were at the start. I *know* that this is not the current expectation.

When price earnings ratios can no longer be increased, and as the inflationary push of World War II fades into the background, and less inflationary forces come to the foreground, then there is considerably less reason to expect future increases in common stock prices comparable to past increases.

Now to the specifics. In view of the limited outlook for common stocks, and particularly in view of the advantage which tax-free bonds hold for you, the committee recommends that you cut back about 10% on the total common holdings, and re-invest the proceeds in appropriate tax-free securities. Essentially, this would mean capitalizing most of the profit of the last six months. If we are wrong, and if the market continues a substantial rise—at the cost of higher and higher price earnings ratios—you would still have a lot of stocks with which to participate in such a rise. If this is the pattern of the future, it will be too similar to 1929 to be healthy.

On the other hand, if today's paper profits disappear in due course, I don't want my halo tarnished with the obvious question, "Why didn't you advise me to sell when everyone knew the market was too damn high?" I feel that such a move from stocks to bonds is sensible because:

It is immediately profitable in terms of income and capital stability and a "bird in hand, etc." Then, the threat of inflation is almost hysterically over-rated: and, in any case, common stocks are no hedge against the type of inflation everyone is talking about, especially at today's prices.

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A Law of Market Indeterminacy

by Robert W. Storer

THERE IS IN PHYSICS a law of indeterminacy, formulated by Erwin Schroedinger, which states that it is impossible to measure both the velocity and the mass of a speeding electron. The reason is that the mass is dependent upon the velocity and when you attempt to measure either variable, the process of measurement itself alters the behavior of one or the other, and hence of both.

Something of the same kind occurs when we study stock market history in greater or less detail, and from this study draw conclusions as to how a stock price "average" will act under specified conditions in the future. From such study, we know, by hindsight, more about the past market than did the buyers and sellers at that time, whose actions and, they alone, created the pattern we now study. And the market is a most intensely *subjective* thing, dependent not so much upon the present fact as it is upon what people think the future fact will be. Moreover, their expectations are quite often limited to what they think the market itself will do, without reference to such objective things as earnings and dividends.

To the extent that study of past behavior gives us clues to what market behavior *should be* under specified conditions, we tend to assume that no one else has discovered what we have discovered, that no one else will act on this discovery in buying or selling, and, therefore, that the market pattern will tend to repeat itself.

All these assumptions are wide of the mark. History is replete with examples of the near-simultaneous discovery of important truths, and it is typical for independent lines of research and experimentation to be proceeding in many places simultaneously. This is probably attributable to the many minds and the many stages through which nearly all discoveries pass in the process of development. And what people have discovered, they tend to apply and utilize. This process involves purchases or sales of stocks, thus affecting their prices. If a sufficient number of people find precedent for a pattern of behavior—find a "law" which prescribes some sequence of events involving stock price behavior, then to the extent that they buy or sell in anticipation that this pattern will repeat itself, their actions will have the effect of advancing the pattern with respect to time. Or, if the pattern originally was based on external or objective developments, the forestalling of it may distort the pattern or obliterate it entirely.

It is for these reasons that, from the nature of open-market prices, any widely-accepted market orthodoxy must be at least in part self-defeating and to this extent ultimately discredited. For to the extent that such orthodoxy is based upon past short or intermediate patterns of prices, its application will tend to prevent the recurrence of these patterns, or to distort them. This may well be the reason for the general doctrine of "contrary opinion," as popularized by Humphrey B. Neal and a few others, which affirms that most of the time majority market sentiment—at least as measured by the resulting actions—is wrong and that it is profitable to act contrary to it. It also follows that the application of new analytic tools and their success in finding stock price behavior patterns, relationships and sequences should be rewarding as long as they are relatively unknown.

This theoretical discussion raises numerous major practical questions, among them the following:

What are the limits of this process? How long in advance will events be discounted in market prices? What will be the impact on the market of today's and tomorrow's high qualifications of investment analysts, which have reached professional calibre and are fast approaching professional standing? Will the growing power of their analytic tools be reflected in market patterns that differ from the past Are these latter factors already reflected in levels of industrial stock prices that are discounting either a brighter future or for a longer time into the future than has been typical of past patterns? Or have fundamentals changed in such a way as to justify these unusually high valuations?

It seems to the writer that the practical limits of discounting the future are twofold: (1) Insufficient probability of the occurrence of the event to be discounted; and (2) an immoblizing degree of conflict between a rational probability and our emotional pulls. There can, of course, also be an infinitely graded combination of these limitations.

If the background of events seems to constitute in its entirety such a novel situation as to cast doubt on the repetition of previous patterns, a New Era and an appropriate new orthodoxy can govern the markets.

The current situation is probably not a violation of the principle of the self-limiting orthodoxy discussed above. Past patterns of bull-market price/earnings ratios, yields and other rational criteria of stock prices have, in fact, been disregarded. A large number of persons—evidenced by the odd-lot ratios—have been skeptical of each major advance in prices since 1942 or 1949, whichever you prefer as the point of origin. And it has been the investing institutions, advised by the emerging professional class of investment analysts, whose buying orders have helped greatly to provide the persistent margin of buying over selling and to move stock prices upward for the best part of the past 17 years. There have been apparent innovations in the

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fundamentals, too. There is an obvious causal relationship between the Government's unprecedented control of the money supply and the nation's first freedom from a major post-war deflation of commodity prices. To a student of monetary economics the potential inflationary implications of the Employment Act of 1946 are real enough to be an important factor to consider in investment planning. That is, assuming that this law is implemented.

New concepts in investing have contributed to a new orthodoxy. Research into the correlation between changes in the money supply and in stock prices, plus the implications of the past long-term growth rate of earnings, dividends and stock prices, plus a belief in the likelihood of a continuing ratchet action in the money supply, have all contributed to the new orthodoxy.

Patterns of Stock Prices

An additional factor in the long-continued rise deserves more than a bare citation. It is simply that stock prices tend to persist in a previous direction of movement—up or down—to a significantly greater extent than the theoretical random distribution of motion calls for. There is a significant degree of momentum to stock prices. That this is true rests upon the feelings of people concerning stocks, and feelings are facts, especially in regard to free-floating market prices. The very definition of an open-market price as the equilibrium point between buyers' bids and sellers' offerings connotes the quintessence of uncertainty—the closely balanced equal probability that prices wll move up or move down from that point. Such complete uncertainty as to the future, especially in matters of money, which is unavoidably important to us all, constitutes a psychological threat to most persons.

From this threat, we seek to protect ourselves by allying ourselves with some person or group who seems—or even claims—to have the right answer, the correct formula. If we are skeptical, even a brief record of their success will tend to silence our doubts and promote our faith. In fact, these market psychodynamics result in such a degree of *feedback*—market movements tending to feed upon themselves—as measurably qualifies the random behavior which classical theory attributes to market action. There is a measureable degree of price momentum. This is evidence that market people's subjective expectations are highly important determinants of market action. These subjective "pulls" allied with evidences of a New Era can cause the market to disregard past patterns.

After these many years of predominantly rising prices, this market momentum becomes a fact, psychologically independent of the rational justifications (noted previously) which have supplied both reasons and purchasing power ammunition for the rise. It would be unusual behavior for the person with the long profit to recall how timorously he made his initial "investment" back, say, in 1943. Rather he is more likely to be congratulating himself on his past realism, farsightedness and shrewdness. And as the market moves repeatedly into new high ground, there may tend to be fewer, rather than more, skeptics. Both the number and the percentage of total individual stockholders who have witnessed nothing worse than the 25% setback of 1946 have been increasing.

All this leads us to such questions as these: How long will it be before this latest stock market orthodoxy is in its turn discredited by events and by being too much a majority view? What is the fatal flaw in today's rationalizations of the rise? Where is the deadly *non sequitur* with which this market is booby-trapped? Or is it possible that this great New Era market is viable, where none of its predecessors was?

Such questions as these must be faced because of the number and qualifications of the investment analysts whose actions, reports and recommendations must, on balance, have been giving the green light to this market. Because of these analysts it is difficult to ascribe present-day high valuations of stocks on their fundamentals mainly to mass hysteria. He who is so possessed by an inward need to be in a small, militant, conspicuously correct minority as to argue with the thus-far correct market majority, must indeed deny a formidable array of professional talent.

Chastened by experience in this regard, the writer should be understood as merely suggesting below some developments which might prevent an indefinite prolonging of New Era valuations for stocks.

1. The psychological momentum and self-reinforcing confidence which the successive waves of stock price advance since 1942—*seventeen* years ago—have engendered, would be expected to prolong and aggravate an overvaluation of stock prices. This would be doubly probable where stocks are owned outright or on high margins. But this would not prevent the operation of an opposite feedback on the downside, once it got started, from whatever cause. In the meantime holders of stocks have become psychologically acclimated to average levels of price/earnings ratios, yields, bond/stock-yield ratios and price/book value ratios such as have previously characterized only 1928-29. When a market gets accustomed to living beyond its past yardsticks, the New Era spirit is kindled.

2. One view of stock prices is to regard them as the sum of the present worth of all the future dividends which will be paid to the stockholders, discounted at a proper interest rate, such as the yield on prime bonds. Some of the factors which are being counted upon to continue the rise in corporate net earnings are, if true, equally potent in raising the level of interest rates, and consequently the rate of discount applied to future growth in earnings. A 50% rise in bond yields from 3½% to 5¼% would by this approach offset, in its effect on stock values, an anticipated 50% rise in the rate of growth of corporate earnings.

3. Consumers—a large, though most unorganized group—have demonstrated to the satisfaction of the University of Michigan Survey Research Center that they are highly allergic to higher commodity prices, and tend to slow down their buying when they encounter

these. It is certainly more than a little ironic that in today's "People's Capitalism" (a felicitous term coined by Dr. Marcus Nadler) the people who are reluctant to pay higher prices for automobiles seem not to boggle at paying higher prices for automobile stocks. But since this is their reaction, we might be apprehensive that if commodity price inflation appears, returns or persists (the reader should make his own choice of terms) it will be met, not by monetary means, which would at least give business a bargaining chance of holding down prices and costs together, but by some highly political formula of attempted price-fixing, which would have the result of curbing prices but not wages and thus of limiting business earnings. In this "century of the common man," who usually identifies himself as a salary or wage-earner, never as a consumer, and seldom as an investor in business earnings, should we be surprised to find this occurring?

4. The long-term institutional investors in stocks have been so emphasized in contemporary market writings as to overshadow individual and perhaps more cyclical holders of equities. To the extent that these latter still exist and are important in the aggregate, we may not be excessively cynical if we assume that stocks will remain high until they have been distributed to weaker, more emotional or more overconfident buyers. There are assurances from technical students that this has not yet occurred on any such scale as to constitute warning of an impending market top. But it can still happen.

5. The annual rate of turnover of all listed common stocks declined from a rate of about 190% in November, 1928, to 5.9% in May, 1942, and 9.3% in September, 1957. It has stabilized at a rate of about 13% since 1955. The usual comment by those who have thought about this is that it reflects a higher percentage of investment buying and a reduced rate of speculative trading in the market, in part by reason of the regulation of stock exchanges under the Securities and Exchange Act. This appears quite probable.

The rising level of stock prices, during most of World War II, then during most of the subsequent post-war catch-up boom and high-level prosperity, has represented a normally prevalent excess of demand for stocks over supply of stocks, at any given price level. But this excess has represented the difference between a typically rather small demand and a still smaller supply of stocks, as percentages of the number of shares listed. For this is what the low rate of turnover involves. And if at any time the excess becomes one of supply over demand—even in the absence of any forced liquidation—the stock market would have a problem of liquidity such as it last faced in 1933. Market thinness means price volatility.

6. Money is the stuff of which higher stock prices are made. Even though money is not "consumed," it is higher levels of bank deposits that create higher earnings and dividends. It is excess liquidity which permits investors to increase their holdings of stocks (and, incidentally, on occasion, bonds). The foundation for the market rise from 1949 to date was laid both in the inflationary war financing of 1942-45 and in the post-war rise in non-governmental debt and deposits.

Money has two dimensions, quantity and velocity, and the latter contributed more to increased purchasing power in the post-war era than the former. There is—and should be—no ultimate ceiling on the *quantity* of money, but something like one has historically existed in money *velocity,* and the economy has been approaching it rather rapidly in recent years.

7. Finally, despite the "improvement of the breed," stocks still constitute the junior security, with no margin of safety. Even a medium-quality bond is extremely likely to meet the terms of its contract; an individual stock has no analogous characteristic. This is what makes equity selection and diversification so necessary. But for the mass investor, these constitute services which must be paid for. Such added costs cause net yields on stocks to compare even less favorably with those on bonds as alternative investments than would otherwise be the case.

8. One of the differences between people and things is that in human situations the sum is quite likely to be greater than the sum of its parts. We have enumerated and briefly discussed seven elements of potential risk to the level of stock prices, considering each separately. To the extent that two or more of these, or of others, operate simultaneously or in sequence at some time in the future, their adverse effects will tend to reinforce the market outcome in an additive or even a multiplicative fashion.

Any future market feedback in a downward direction will have to be mainly psychological. Both the virtual floor under the money supply and the degree to which stocks are owned outright will prevent a feedback reaction resulting both in and from forced liquidation of stocks. It appears more likely that the top will come about from a gradual awareness that most of the tangible causes of the long rise have spent themselves. If then bond yields—especially on tax-exempts—are as competitive with stock yields as at present, or more so, there will be more incentive to sell, as well as a decreased incentive to buy. And the thinness of the market is a bottleneck to any rapid pace of liquidation.

With our emphasis throughout this story on the subjective elements involved, this final thought has to be appended:

If there are as many long-term investors—individual and institutional—as claim to be; if they buy for the long pull and are willing to endure an ordeal of boredom from market inaction (which is as grave a threat to markets as to marriages!); or of uncertainty and anxiety; then for that length of time subjective, rather than objective, factors will dominate the valuation of stocks on their fundamentals. To hear some investors talk, even an actuarial equality of investment results as between common stocks and bonds, extending over a full decade, would not necessarily alter their dollar-averaging programs.

If so, stocks could sell high on their fundamentals for an unusually long time.

The Log of the Navy's Polaris

1958 First Polaris test missile was successfully fired in January—one yea after the Navy announced its plan for this fleet ballistic missile Lockheed is prime contractor and Missile System Manager. Polaris team includes Aerojet-General, General Electric, Westinghouse.

1959 An accelerated program accomplished methods of launching the Polaris from submerged submarines nd surface ships. More than 7,000 scientists, engineers, and techniians work on the Polaris at Lockheed's Missiles & Space Division.

1960 The Polaris is scheduled for active duty in late 1960 —*two years ahead of original schedule.* Miniaturization techniques developed by Lockheed make the Polaris so compact that each of the Navy's nuclear subs will carry 16 missiles.

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A Study of Stock Splits in the Post War Years

by Dr. Douglas H. Bellemore & Lillian H. Blucher

THE POSTWAR ECONOMIC PROSPERITY in the United States has been marked by the presence of many general business and security market conditions typical of such a period. One of the more salient characteristics manifested by stocks listed on the National Stock Exchanges has been the wide-spread practice of stock-splitting by corporations in every field of business. Historically, this movement has been the second of its kind, precedented only by the wave of stock-splitting which occurred throughout the 1920's, our previous period of high prosperity.

Because investors have become increasingly aware that special situations which arise in individual companies often provide opportunities for advantageous placement of their funds, and because potential stock splits frequently create such opportunities, an understanding of split-ups and their effects may offer valuable assistance in sound and enterprising portfolio management. While most investors are aware of the existence of the phenomenon which often results in the sum of the parts being greater than the whole, there continues to be a lack of understanding of the broader ramifications involved, of the causes for split-ups and of the reasons justifying their effects on the market for split shares.

It was the purpose of the research, on which this article is based, to attempt to clarify the significance of stock split-ups and to point out their potential importance in investment management by examining in detail their more important features, their causes, and their effects in relation to the individual securities and companies involved and to the stock market in general, with particular emphasis on the price movements of split shares.

A stock split-up is effected when the number of a corporation's shares is increased by the reduction of the par or stated value of the stock. This means that the existing stock is divided into a greater number of shares without any change in the total amount of the company's capital account or surplus account, and without any change in each stockholder's equity in the corporation. For the purpose of the study, only stock splits of two for one or better, or stock dividends of 100% or more were considered. In the case of a stock dividend, as opposed to a stock split, the corporation must debit or decrease its surplus account, and credit or increase its capital stock account. However, the net result of both the two for one stock split and the 100% stock dividend is to double the total number of outstanding shares. The study was confined to stocks listed on the New York Stock Exchange, since daily records and complete statistical information are not always available for shares sold on various other exchanges.

History of Stock Splits

Stock splits were first popularized in the decade following World War I during which they appeared with increasing frequency, especially in the years of rapidly rising stock prices, 1928 and 1929. A survey of the 837 stocks listed on the New York Stock Exchange on Dec. 31, 1930, revealed that 150 of these stocks, or 18% of the total, had been split once or more since Jan. 1, 1921,[1] with most of the splits occurring in the years 1927, 1928 and 1929. From this account, and from the record of split-ups since then, it may be concluded that stock splits normally occur most frequently in the years of prosperity when earnings are high and prices of common stocks are at high and usually advancing levels.

As much of the investor interest regarding stock splits centers around the motives of corporations in broadening their capitalizations, some of the more common objectives for split-ups will be discussed and evaluated against the criteria desirable for such action, the most essential of which is a relatively high market price reflecting strong and growing earning power.

Greater Marketability of Stock

Prior to the large scale public ownership of corporate stock, ready marketability was not an important attribute of individual issues. This is still the case in closely held or family corporations. However, as a steadily expanding portion of the public is becoming active in the ownership of American corporate enterprises, marketability is also becoming increasingly important. Stock splitting has been widely popularized as one method of enhancing the marketability of a security.

The average investor has shown a marked preference for shares priced from $20 to $50. That is, most investors would rather purchase 100 shares of a stock selling at $40 per share, than 20 shares of a stock selling at $200 per share, although the total market value in each case would be the same. Thus, a split-up broadens the market for a stock by increasing the number of shares outstanding and by making it available at a lower price per share.

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[1] Footnotes are at end of article.

This factor of increased marketability is often of importance to corporations planning future financing, or an initial public offering of stock, and therefore especially concerned with attaining a popular price range for their shares to be distributed either on a privileged subscription basis to existing stockholders, or in an initial underwriting to the general public. This factor is also important in the case of secondary offerings of large blocks of outstanding stocks held by individuals, trusts, pension funds, or financial institutions. The sale of Ford Motor Company stock early in 1956 is a case in point.[2]

Wider Distribution of Shareholding

Stock splitting can serve an important function in assisting corporate managements in the improvement of stockholder and employee relations, and in maintaining control by broadening public ownership and reducing the possibility of concentration of a large number of shares in hostile groups or in the hands of "financial pirates." While the spreading of share ownership cannot prevent proxy solicitations and battles for control, it can make the cost of waging such battles a strong deterrent, thus discouraging stockholder revolts or outside attempts to unseat the incumbent management. A classic example of a costly proxy battle in recent years is provided by the late Robert R. Young's successful fight for control of the New York Central Railroad, at a reported cost to him for proxy solicitations of $1,300,000.

A relatively low market price also enables and encourages employees to invest in their company's stock, normally resutling in increased loyalty and responsibility, and contributing substantially to reducing labor's antagonism toward management. It must be remembered, however, that if employees are encouraged to purchase stock which subsequently declines substantially in value, considerable ill will can result, as was discovered by numerous corporations which sold stock to their employees on the installment plan in the years 1927-1929.

It has been claimed that from the marketing standpoint a corporation manufacturing consumer goods has a considerable advantage if it enjoys widespread ownership of its stock. While this seems to be an obvious conclusion, we are unaware of any studies which objectively and conclusively support this contention.

Capitalization of Growth

Corporations in rapidly growing industries usually experience a marked increase in earnings during prolonged periods of prosperity. Under such circumstances, stock-splitting offers a sound method of adjusting undercapitalized financial structures, and of spreading earnings over a broader capital base. In a true growth company, the split shares will gradually increase in value, reflecting the growth inherent in the earning power of the enterprise. Although it may require a considerable period of time and of compounding of reinvested earnings, the price of the split shares will eventually tend to reach or surpass the price of the original shares. This has been the case in such recognized growth companies as Eastman Kodak, du Pont (E. I.) de Nemours, and Standard Oil Co. (New Jersey).

Moreover, by reporting more modest earnings per share, and less dramatic year-to-year increases, a company in a new and expanding industry may, to some extent, forestall the entrance of competitors into its field, prolonging the period during which high-profit margins can go relatively unchallenged, and permitting the company to gain a dominant position in the industry. By reducing the reported per share earnings and dividends, split-ups also tend to reduce the possibility of close scrutiny by regulatory authorities, such as the Federal Trade Commission, and by anti-business politicians, and labor unions.

Provision for Additional Shares For Acquisition of New Property

A substantial portion of corporate expansion in the past and present has been accomplished by means of consolidations and mergers, and by the acquisition of new properties in exchange for stock. When contemplating such actions, corporations should have large amounts of unissued capital stock available for exchange. Thus, they frequently substantially increase their number of shares of stock during periods of rising market prices in the expectation of building up the total market value of the stock, enhancing the companies' relative positions in effecting mergers. There are a number of bases for arriving at the ratio for the exchange of stock in a merger, not the least important of which are the growth record of adjusted earnings per share and the market price of the shares.

Adjustment of Distribution of Profits

During periods when earnings are high and dividend rates are at corresponding levels growth companies, in particular, often seek to adjust their dividend payment as well as their reported earnings, not only for the reasons earlier described, but more frequently, to increase cash disbursements without obviously raising dividend rates. A split-up of the stock offers an effective solution. For example, a stock paying $9 before a two-for-one split can pay $5 after the split, which may not be as noticeable an increase as if the stock were not split and the dividend raised from $9 to $10.

The frequency with which stock splits have been accompanied by effective dividend increases in the past has led to the expectation of such increases by the investing public following most split-up announcements; and the anticipation of more liberal total dividends has probably been largely responsible for some of the spectacular price advances registered by many stocks as soon as rumors of impending splits have been circulated.

Satisfaction of Stockholders

One of the more important reasons for stock splitting from management's point of view, but often the least sound in relation to a company's internal financial position, is simply to satisfy the shareholders' desire for a split. It is a well-recognized fact that stockholders in general like stock splits, because in buoyant markets split shares normally increase in value. Furthermore, stock splits are in themselves a bullish influence, and the investing public looks to them to help to maintain an upward trend in market prices in general.

Unsound Split-Ups

Unfortunately, some managements have been overeager to respond to stockholder pressure or to follow the fashion during a bull market, and have effected stock splits under circumstances which have been economically and financially unsound. The split-up of a stock whose price has risen to a high level largely due to a purely cyclical increase in earnings, or as a result of an earnings increase of a non-recurring nature does not normally result in a permanent enhancement of market value. On the contrary, when a split-up has not been supported by substantial growth characteristics in the company, market gains following the split announcement usually will be dissipated when earnings return to a more normal level, or the business cycle enters a downward stage. By the same token, stock splits by companies whose shares are volatile and relatively low in price are not advisable from a long-range point of view. Such shares seldom can maintain price gains, if any; and often they are depressed to lower levels following a split than before.

The following are examples of unsound splits followed by price declines greater than general market declines, or contrary to general market advances:

(1) Clevite Corp.—Split 2 for 1 April 13, 1953. New stock opened at 25 3/8. In April 1954, the stock was quoted at 21 1/2. During the same period, the Dow Jones averages climbed from 274.73 to 306.27.

(2) Kelsey-Hayes—Split 2 for 1 July 2, 1953. New stock opened at 19. In April 1954, the stock was quoted at 16 1/2. During the same period, the Dow Jones averages rose 36 points from 270.23 on July 2, 1953.

(3) Ritter Company—Split 2 for 1 in December 1955. New stock opened at 26 1/4. In less than three months, the stock sold down to 21. During the same period, the Dow Jones averages rose from 480.72 to 497.84.

Relation of Splits to Market Trends

Although it would be difficult to establish a definite coefficient of correlation between the number of stock split-ups which occur during any period and the movement of market prices over the same period, the record shows that there is a strong tendency for split-ups to take place during rising markets of long duration, or to occur in large numbers in the later stages of bull markets.

Table I shows the number of listed stocks split two for one or better during the ten years following World War I, and the 11 years immediately following the conclusion of World War II. It may be seen that the number of splits during the 20's increased gradually as the bull market gained momentum, and reached a peak of 38 in 1929 during the final stages of the boom. The slight recessions in business activity which occurred in 1924 and 1927 are reflected in the slightly smaller number of split-ups in those years.

Table I

Number of Stock Split-Ups of Two for One or More, 1921-1930, and 1946-1956

Year	Number of Split-ups	Year	Number of Split-ups
1921	2	1946	74
1922	14	1947	48
1923	17	1948	30
1924	12	1949	17
1925	14	1950	33
1926	23	1951	49
1927	17	1952	35
1928	22	1953	23
1929	38	1954	34
1930	15	1955	73
		1956	88
Total	174	Total	504

Source: Table from Charles L. Jamison, "How Good Are the Reasons for Stock Splits," Michigan Business Review, VIII (January, 1956), p. 14; completed for 1955 and 1956.

The post World War II pattern was somewhat different, opening with an immediate heavy wave of split-ups in 1946, the market having risen 43 points, or 25%, in just one year, reaching 213.36 on May 29, 1946, a new Dow Jones high since the previous all-time high of 381.17 recorded on September 3, 1929. After tapering off somewhat, the market steadied and traced a fairly narrow horizontal trend area ranging mainly from approximately 165 to 190 during the following three years, and dipped for a third and last time to a low of about 160 on June 14, 1949. During this three-year period, the number of split-ups also dropped off, particularly during the slight business recession of 1949, which was marked by a low point in the number of stock-splits during the post-war period studied. Actually, the number declined still further in 1958, with only 12 split-ups of two for one or better effected by companies listed on the New York Stock Exchange.

The second strong bull movement, sparked by the Korean War, was still gaining momentum in 1951, when there were 49 split-ups, the largest number since 1946. Again reflecting the market level during the minor recession from mid 1953 to mid 1954, the number of splits declined to 23 in 1953. A new rash of split-ups was effected during the rapidly rising market of 1955 and 1956, as the Dow Jones Industial Average climbed from 408.89 at the beginning of 1955 to the then all-time high of 521.05 recorded on April 6, 1956.

The relationship between the number of split-ups each year from 1946 to 1956 and the general level of market prices as recorded by Standard and Poor's Monthly Industrial Indexes may be observed in *Figure I*.

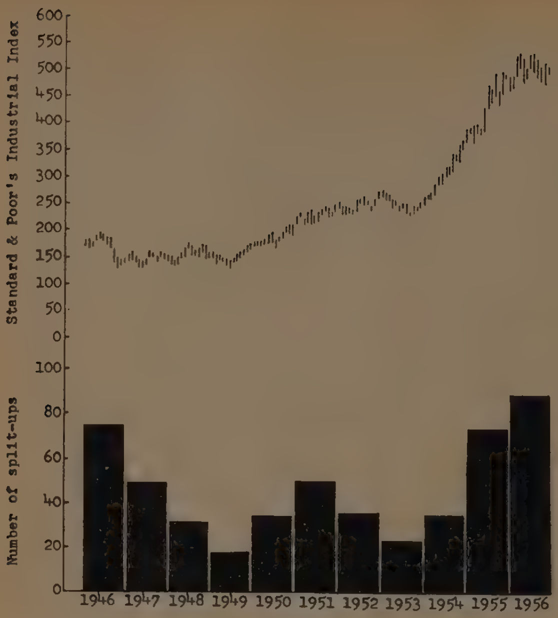

FIGURE 1

STANDARD & POOR'S INDUSTRIAL INDEX, 1946-1956
NUMBER OF STOCK SPLIT-UPS, 1946-1956

In view of the inability of the market in 1957 and the first six months of 1958 to move into higher ground from its 1956 peak, and of the steady deterioration of general business conditions in the second half of 1957 and early part of 1958, it was not surprising that the number of split-ups effected in 1957 declined sharply to 40, less than half the record 1956 total, and toppled to 12 in 1958, establishing a new post-war low. However, with corporate management generally adopting a more optimistic attitude regarding the economic outlook in the second half of 1958, and with the stock market staging a vigorous and almost unprecedentedly sharp recovery and advance from April 1958 to early 1959, a resurgence in stock-splitting activity appeared entirely reasonable at the turn of the year. During the first half of 1959, a total of 51 split-ups was reported, compared with only five in the first six months of 1958.

While it seems probable that stock splitting will continue at an active pace so long as the current buoyant market exists, the major wave of split-ups deriving from the 1958-1959 surge in the market may well be over. Thus, barring a major change in the cyclical pattern of the economy, and in stock market movements in coming years, the number of splits in 1960 and 1961 could quite reasonably slip off moderately from the 1959 level.

Price Levels of Split Stocks

As mentioned previously, corporations which split their stock are usually concerned with establishing the market price within a popular level for maximum marketability. While there is considerable difference of opinion regarding the optimum price level for most active trading in a stock, a majority of estimates run from about $20 to about $50 per share. One study covering market trading in December of 1956 indicated that the largest share turnover occurred in the price range from $10 to $20.[3] However, it can be assumed that a considerable portion of the activity in this low price range represented operations by speculators. On the other hand, the results of several other surveys indicates that, among investors, the most popular price range for stocks lies between $30 and $40 or $45.[4]

To evaluate the effectiveness of split-ups in bringing shares into a more marketable price range, the prices of stocks before and after they were split have been compared. On the basis of a random sample of 100 stocks drawn from the total of 504 stocks split two for one or better in the 11 years from 1946 to 1956, it was found that only 26% of the stocks were selling at less than $50 prior to their split-up, while 74% were selling over $50 in price. The largest concentration, 41% of the total, occurred between $50 and $80, with 8% of the stocks selling between $80 and $90, and 11% between $90 and $100. Only 14% of the total were priced above $100, including 3% above $200. The fact that split-ups of relatively lower priced shares have become far more common during the past decade than they were in the 1920's is quite evident when we consider that 87.4% of split stocks during that former period sold at above $100 prior to splitting.

The opening prices of all split stocks on the first trading day after the effectiveness of the split-up were recorded for each year from 1946 to 1956, and a percentage distribution table was derived, using $5 class intervals. It was observed from this tabulation that the prices of the stocks after the split were concentrated mainly within the range from $20 to $40. Of the 504 stocks split during the 11 years studied, 59.6% had opening prices within that range. Only 14.0% were priced under $20, and 12.2% were priced at $50 or more. The highest price of a split share was $96¾, and the lowest was $7½.

The class interval with the greatest single concentration, after the split, was that between $20 and $25, with 17.3% of the total, followed by that ranging from $25 to $30, with 15.9%. In both cases, however, the 11-year totals were weighted by the earlier years, because from 1946 to 1950 a large proportion of all split-ups resulted in shares of relatively low market price. In the remaining six years, the trend was toward a slightly higher market price, of $30 or more. It should be recalled in this respect that the Dow Jones Industrial average only rose to a 220 high in 1950 before the Korean War, and to 235.47 in November 1950, while by April 1956 the market level as measured by this average had more than doubled, reaching 521.05.

Ratio of Split

The price level desired for a split share may be predetermined by the choice of a ratio of split. For example, a company whose stock is selling at about $100 may reduce the market price per share to around $50 by effecting a two for one split, or to about $25 through a four for one split-up. The ratio of split is of further significance in that it has been observed that larger ratios normally tend to produce a greater increase in trading activity in the shares than smaller ratios. However, although split-ups immediately swell the absolute number of shares traded, they usually cannot enhance trading volume directly in proportion to the ratio of split.

Of the total of 504 listed stocks split from 1946 to 1956, 68.8% involved two for one split-ups. The three for one ratio was second in importance with 18.4%. Four for one splits accounted for 5.4% of the total. Only 0.8% represented split-ups in ratios of more than five for one. By comparison, high ratio split-ups were far more important during the 1920's. Of 174 split-ups effected during those ten years, 34.4% were four for one, and 12.6% were five for one. Two for one splits accounted for only 25.2% of the total, and three for one splits for 8.6%. This can be explained by the fact that split-ups at that time were limited mainly to very high priced stocks.

It appears that there is some relation between the number of split-ups effected during any given year, and therefore with the general level of market activity during that year, and the frequency of high ratio splits. It was observed that most of the post World War II split-ups in ratios of five for one or more, and a large proportion of all four for one split-ups occurred in 1946, 1947, and 1956, when the volume of stock-splitting was relatively high. Presumably, this reflects the expectation of the corporations splitting their stocks that the prevailing market strength would occasion the split shares to register significant gains within a short period of time. Practically, it seems most reasonable to sharply increase the supply of stock at a time when the market is best able to absorb it, that is, when trading activity is at a high level and demand is strong. When trading is dull, a high ratio or even a two for one split-up may depress the price of a stock by glutting the market with more shares than it is able to digest.

Effects of Split-Ups on Market Price

Among the various effects of stock split-ups, that which is generally of the greatest interest to investors is the influence on the market price of stocks. Because it is the most measurable effect, it is often the criterion by which the relative success of a split-up is evaluated. The price appreciation or depreciation of a split stock may be considered in absolute terms, or in comparison to the movement of stocks of similar companies in the same industry. As our major objective in the study was to determine whether split stocks usually perform better than stocks which have not been split, the analysis was conducted along the latter lines.

Method of Evaluating Price Effects

The survey was based on a random sample of 100 listed stocks drawn from the 504 split two for one or better from Jan. 1, 1946, to Jan. 1, 1957. All split stocks each year were listed alphabetically. The lists were arranged in chronological order from 1946 to 1956, and the stocks were numbered consecutively, 1 to 504. The stocks whose numbers corresponded to the 100 numbers drawn from a table of non-repeating random numbers constituted the sample.

Every split stock had an equal chance of being selected for the sample. Consequently, the results of the study cannot reflect any bias. Since the sample consisted of approximately 20% of the entire group of units from which it was selected, it was sufficiently large, according to accepted statistical standards, to be considered representative of the group. The results obtained may therefore be regarded as descriptive of all split stocks during the eleven-year period covered.

Because earlier investigations into the price movements of split stocks almost invariably have revealed that the widest price action usually occurs immediately before or after the public announcement of a split-up, it was decided to use the announcement date as the central point from which to set the time limits of the study. Since we wished to compare the prices of stocks prior to the influence of the split-ups with their prices after the effects of splitting had been fully taken into account, it was necessary to set the base date sufficiently in advance of the announcement date to eliminate the bullish influence of split rumors. The base date selected in the study was the trading day eight weeks prior to the announcement date of a split-up—as we believe that the probability of any discounting of split rumors being reflected in the market price of a stock at such time is negligible in most cases.

Investor reaction to a split-up normally is registered in the market price within a few days following the public announcement. The trading day, eight weeks after the announcement date, was therefore chosen for comparison of prices after splitting. Again, it is considered that all benefits anticipated as a result of the split, such as higher dividends, are usually fully discounted by the market at this time, even though the split-up may not yet have become effective.

Study Carefully Weighed

The period covered by the study was deliberately limited to a rather narrow interval in order to eliminate as far as possible the influence of the many other factors, such as the awarding of large government contracts, labor difficulties, the settlement of prolonged litigations, and industry price increases, which may affect the market prices of individual issues independently of their split-ups. No attempt has been made to segregate the effects of dividend increases, since their anticipation is almost inseparable from the investing public's appraisal of split-ups.

Because we wished to isolate any price changes in split stocks resulting directly from the split-ups and attendant benefits, if any, it was necessary to average out the influence of general stock price movements from the total gain or loss recorded by split shares. This was done in each case by expressing the percentage change in the stock price adjusted for the movement of the appropriate Standard & Poor's weekly industry index over the same period of time.

To simplify the following discussion and presentation of the results of the survey, the trading day, eight weeks prior to the announcement date, shall be designated as "A", the trading day immediately following the announcement date as "B", and the trading day eight weeks following the announcement as "C". In each case, the high price for the day was used, taken from the daily stock price quotations as recorded in the Commercial and Financial Chronicle.

The percentage changes in stock prices from the date eight weeks prior to the announcement up to the announcement date were computed as follows:

$$\text{Adjusted Percentage Change in Price from A to B} = \frac{\text{Price on Date B} - \text{Price on Date A} \times 100}{\text{Price on Date A}} \text{ plus or minus } \frac{\text{Index on Date B} - \text{Index on Date A} \times 100}{\text{Index on Date A}}$$

That is, the percentage increase or decrease in the price of each stock, and the percentage increase or decrease in each index were computed. If both moved in the same direction, the adjusted percentage change in price was represented by the difference between them, positive or negative. If they moved in opposite directions, their sum was recorded as the adjusted percentage price change. The change in price from the base date to the date eight weeks after the announcement date was calculated in the same way.

Results of the Study

In analyzing the results of the study, one should be reminded that all percentage price changes discussed are relative changes, adjusted for the market action of corresponding industry groups. It is important to realize that in absolute terms many stocks registered considerably greater advances than the adjusted percentages indicate. On the other hand, some stocks which declined, in industries which also declined, suffered greater losses than the percentages reveal. The performance of the 100 stocks examined may be summarized as follows:

Number of price increases from Date A to Date B: 86
Number of price increases from Date A to Date C: 78
Number of price increases from Date B to Date C: 43

Number of price decreases from Date A to Date B: 14
Number of price decreases from Date A to Date C: 22
Number of price decreases from Date B to Date C: 57

Average percentage increase of stocks which advanced from Date A to Date B: 11.89%
Average percentage increase of stocks which advanced from Date A to Date C: 13.63%
Average percentage increase of one hundred sample stocks from Date A to Date B: 9.69%
Average percentage increase of one hundred sample stocks from Date A to Date C: 9.57%

Range of percentage increases from Date A to Date B: from 0.50% to 35.88%
Range of percentage increases from Date A to Date C: from 0.39% to 44.34%

Average percentage decrease of stocks which declined from Date A to Date B: 3.84%
Average percentage decrease of stocks which declined from Date A to Date C: 4.81%

Range of percentage decreases from Date A to Date B: from 0.20% to 14.65%
Range of percentage decreases from Date A to Date C: from 0.01% to 14.93%

From the foregoing, it is clear that a very large majority of the split stocks performed better than other stocks in their industry groups. The price appreciation appears to have been greatest just prior to the announcement date, or on the trading day immediately following. Although a good part of the stocks continued to rise after this point, 57% sold off slightly; so that only 78% still showed a net increase by the end of the survey period as compared to 86% which had increased by the day after public announcement.

The distribution of the adjusted percentage changes in the prices of split shares during the periods from Date A to Date B, and from Date A to Date C, into 5% class intervals, is shown on *Table II*. The largest concentration of stocks registering gains occurred in the interval from 5% up to 10% in both periods. Increases of up to 15% accounted for 69.7% of the stocks from Date A to Date B, and 64% from Date A to Date C. Although the average increase from A to B was 11.89%, and from A to C 13.63%, the range of increases indicates that individual issues gained considerably more.

It is quite significant that, on the average, adjusted percentage declines of split stocks were much smaller than advances. It may be observed from *Table II* that no losses exceeded 15%, and that the heaviest concentration occurred in the range up to 5%. The average decreases of 3.84% from Date A to Date B, and 4.81% from Date A to Date C are clearly substantially smaller than the corresponding adjusted average increases. In spite of these minor declines, the entire sample of stocks averaged increases of almost 10% in both time intervals examined.

These findings tend to substantiate the widely held opinion that split shares normally outperform the rest of the market list for several months before and after a split announcement, and particularly while the actual split-ups are being anticipated. The effects of operations by speculators should not be overlooked in this respect. Split rumors usually attract much attention from this group of prospective purchasers since potential split-ups often provide opportunities for wide percentage gains within a short time. Profit taking by speculators after split-ups have been formally announced is probably one of the reasons for the slight sell-off commonly experienced by stocks at this stage. Moreover, it appears reasonable for market activity in shares to subside somewhat after the announcement of their split. When the

Table II

Percentage Changes in the Market Prices of One Hundred Sample Stocks Split Two for One or More from 1946 to 1956, Adjusted for Changes in the Corresponding Standard & Poor's Industry Indexes

Percentage Change in Market Price Adjusted for Change in Corresponding Standard & Poor's Industry Index	Period from Eight Weeks Before Announcement Date to Trading Day Immediately Following Announcement Date				Period from Eight Weeks Before Announcement Date to Trading Day Eight Weeks After Announcement Date			
	Stocks with Price Increases		Stocks with Price Decreases		Stocks with Price Increases		Stocks with Price Decreases	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0% up to 5%	15	17.4	9	64.3	15	19.2	13	59.1
5% up to 10%	24	27.9	4	28.6	21	26.9	7	31.8
10% up to 15%	21	24.4	1	7.1	14	17.9	2	9.1
15% up to 20%	12	14.0			9	11.6		
20% up to 25%	9	10.5			9	11.6		
25% up to 30%	3	3.6			3	3.8		
30% up to 35%	1	1.1			1	1.3		
35% up to 40%	1	1.1			5	6.4		
40% up to 45%					1	1.3		
Totals	86	100.0	14	100.0	78	100.0	22	100.0

new shares are admitted to "when issued" trading, or the split-up becomes effective, a certain time is required before the market can fully absorb the increased number of shares. During this period, many stocks tend to drift to a slightly lower level.

Other Effects of Split-Ups

In addition to their direct effects on the market prices of split shares, stock split-ups normally exert some influence on various other factors of interest to long-range investors, and to the individual corporations involved. Perhaps foremost among these is the repeatedly evidenced tendency of split shares to attract more new shareholders to a company than non-split shares. The results of several surveys conducted by various financial journals in recent years have almost invariably indicated that companies which split their stock registered a very measurable increase in the number of their shareholders during the year in which the splits were effected, and maintained or markedly enhanced these gains in following years. By comparison, shareholder gains by similar companies which did not split their stocks were considerably more moderate; and many more corporations in this category suffered losses in shareholders than did companies effecting split-ups.

The dividend increases which frequently accompany stock splits are of major importance to investors. Of course, these cannot be regarded as a direct effect of split-ups, but rather as a further recognition of the conditions in individual companies which generated the splits, primarily a pronounced growth trend, as evidenced by a sustained year-to-year increase in earnings per share.

A split-up of the common stock of a corporation which has convertible bonds, or preferred stock outstanding, could dilute or completely destroy the conversion rights of these securities. Normally, the bond indenture, or the certificate of incorporation, includes a clause protecting the conversion privileges of such issues. However, when no provision has been made beforehand, conversion rights are usually restored by action of the board of directors and the stockholders. Accordingly, this possible effect of split-ups is usually of minor consequence.

CONCLUSIONS

The heavy wave of stock splitting activity during the 11 years ended Jan. 1, 1957, evidences the increasing awareness of American corporations of the advantages which may be derived from an economically and financially sound recapitalization through a stock split-up. The beneficial aspects of stock-splitting to a corporation should not be overlooked in considering the significance of split-ups to investors, because, in the long run, the success of investors is inseparably dependent upon the welfare of the corporations in which they own shares. Therefore, regardless of price considerations, shareholders in a company which has split its stock under favorable and rewarding conditions benefit in the long run from the resulting improvement in their company's position, be it through a wider distribution of share ownership, stabilization of control, more satisfactory public relations, or any other advantages which may accrue to the company.

Holders of split shares further benefit from the enhanced marketability of their investment normally resulting from split-ups, permitting greater flexibility in the management of their portfolios, and minimizing the risk of undue loss in case the need to liquidate stocks on short notice arises.

While these are qualitative advantages, the value of which cannot be measured exactly, we have observed that most split-ups also result in a definite quantitative appreciation. Although the percentage change in the price of individual issues varies widely, the results of the survey conducted indicate that adjusted market advances of split shares are generally greatest during the strongest phases of bull markets; and that while split stocks register gains even during mild bear market periods, such gains are much smaller on the average than increases recorded during strong market periods.

We have also noted that the greatest appreciation in market price usually occurs during the several weeks prior to the public announcement of a split-up, and on the announcement date itself, although a substantial proportion of all stocks continues to rise thereafter. How the same stocks would perform without being split must remain a moot point. Since stock splits usually are effected in recognition of prolonged growth and strong earning power, it is probable that such stocks would maintain or enhance their market position without splitting. However, it is assumed that a greater appreciation is made possible in most cases as a result of the various advantages attendant to splitting, as earlier described.

On the basis of the survey findings, we must conclude that in general stock splits have provided investors with genuine opportunities for realizing capital gains—especially if the original stock is purchased prior to the formal announcement of a split-up. Moreover, for investors capable of pursuing a policy of careful and thorough analysis, investing in stocks which appear to be prospective splitters should offer a comparatively safe avenue to better than average returns on a portfolio, with respect to both market price appreciation and to improving yields. Since such stocks normally represent strong earning power and increasing dividend potential, they appear to be exceptionally well suited for long-term investments.

In conclusion, it is our belief that by making long-range investments in stocks of good quality which are expected to split, investors may realize the full benefits of any sound investment program, plus the advantage of the additional appreciation potential characteristic of such stocks. Thus, for those who are willing to investigate their profitable possibilities, for true investment purposes, stock split-ups could play an increasingly significant role in successful portfolio management.

Footnotes

1. James C. Dolley, "Characteristics and Procedure of Common-Stock Split-ups," Harvard Business Review, XI (April, 1933), p. 319.

2. "Ford Goes Into New Era With Stock Sale in 1956," Business Week, No. 1367 (November 12, 1955), p. 168.

3. "Price Popularity," The Exchange, XVIII (February, 1957), pp. 16-17.

4. "Why Stocks Are Split," Newsweek, XLVI (July 18, 1955), p. 68; and Ira U. Cobleigh, "Schizophrenia Hits the Stocks," The Commercial and Financial Chronicle, CLXXV (February 7, 1952), p. 12.

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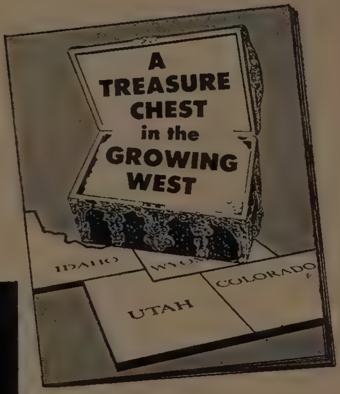

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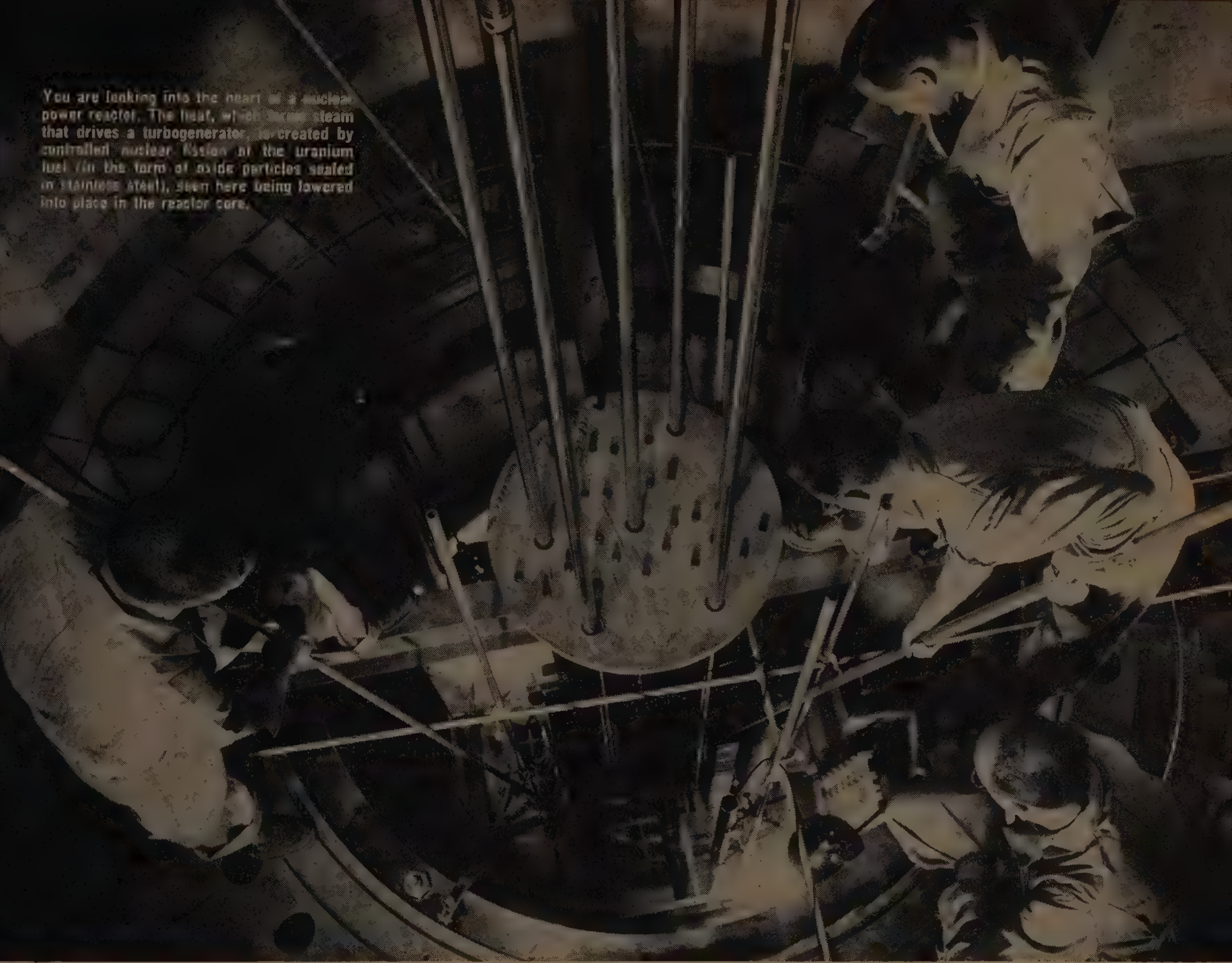

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Increasing Capital Gains From Common Stock Investments

by Arnold Proschan

CAPITAL GAINS FROM COMMON STOCK INVESTMENTS are more likely to be achieved if a definite objective for the rate of gain has been established in advance, and transactions are effected only after consideration of the likelihood of that rate being attained.

If, for example, the investor establishes a 20% annual rate of increase as a goal, he is then unlikely to invest in a stock which promises some gain (perhaps as much as 20%) *at an indefinite time in the future;* nor is he as likely to continue holding a stock in which he already has a satisfactory gain, but whose prospects for further gain are indefinite in time and apparently rather limited in amount. Only stocks affording the likelihood of substantial gains over a definite period of time would be bought or held. Switching would be effected freely, with commission expenses being considered in the same light as would any business expense; the desire to prove that every selection was right and to avoid taking losses would be subdued. Dividend income would be disregarded, except as a factor to be considered in appraising capital gain possibilities.

The use of this approach implies that it is possible to ferret out substantially undervalued stocks, which are likely to be accorded a higher market valuation in a limited period of time. When overall stock market conditions are not unfavorable, this does not pose excessive difficulty. There are always some companies of substantial merit which have suffered a setback for one reason or another (perhaps the digestion of new acquisitions); and it can be ascertained that effective remedial actions have been taken on which the payoff will not be long delayed.

There are other companies which are effecting cyclical recoveries, in line with improving prospects in their industries. Perhaps an extensive capital improvement program may be reasonably expected to start paying off in the near future. It is in the timing of an increase in market valuation, rather than in the selection of a likely prospect, that the difficulty lies; and it is, of course, the advantage of the predetermined rate approach that it forces attention on timing of transactions.

As a means of continually visualizing the progress of actual investments against predetermined goals, the market value of each stock may be plotted weekly against a line representing the desired percentage rate of increase (semi-logarithmic paper may be used, if desired, simplifying plotting of rate lines). If the stock stays on or near the target line, that portion of the total fund is meeting appreciation objectives. If the stock lags, the natural question is, can it get back to the line? If this appears unlikely, the next question is, can it reasonably be expected to move along a rate line drawn from its present position.

Risk on the Down Side

In other words, is it as good a use of the invested capital as can be achieved under current conditions? Often a stock which has not moved at the rate originally desired, will give little satisfaction as to its likelihood of achieving that rate in a reasonable period of time. Use of such a chart will enforce the view that no stock should continue to be held when its prospects of appreciation are completely indefinite, since the target line moves a little higher every week; also, there is always some risk on the down side.

It will be observed that the chart establishes a common criterion for a dollar, whether employed in a $10 stock investment or in a $50 stock investment; in both cases, the same rate of increase must be achieved. Were it not for the artificial increases in the market valuation attached to stock splits, concentration on percentage increases would in many cases favor the lower priced stocks. Lower priced stocks can often idle along week after week without getting too far below the target lines, while higher priced stocks which are not achieving current gains often appear to be drawing hopelessly away from their objectives.

Since the charting of market progress against target lines readily discloses the good performers, the investor will want to augment his position in such stocks, and thereby increase his gains. This he can do only if he has not scattered his funds over many issues.

Warning: Avoid Small Gains

It is therefore appropriate to approach investment in a new stock gingerly, and build up a position only as the success of the investment demonstrates itself. When emphasis is thus given to finding a few good vehicles to capital gains, there is also less likelihood of tying up funds in issues in which only small gains may reason-

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ably be expected. Few gains are sure, and many a dollar of potential gain can be lost because a quick, sure, small gain was sought—which somehow did not work out as expected. Also, if each selection is made with the idea that it may lead to an extensive position, there is more concern with sound selections and less need for diversification for safety.

It will be noted that this method supports the general approach taken by Gerald M. Loeb in *Battle for Investment Survival.*

To carry the use of target rate lines to their logical conclusion, it is appropriate to measure gains and losses on completed transactions in terms of deviations of the sales price from the target line value, rather than from the original purchase price. Such deviations are then multiplied by the number of shares, to give the total gain or loss against the objective for funds employed in that amount and duration. Some gains which appear good in terms of purchase and sales price, will not appear so good when measured against objectives; and conversely, some gains of relatively small amount will appear exceptionally good because of the short interval of time involved. Losses which are small in terms of purchase and sales prices may appear large when target line prices are used.

A refinement of the use of an annual rate line is to use a compound interest curve. A 1½% compound interest curve will raise $1 to $1.1956 in 12 periods; therefore this curve provides values for plotting on a monthly basis for as many years as desired, with an annual appreciation rate of about 20%. A 4% compound interest curve provides a basis for plotting a 60% increase in a year. For simplicity, straight lines may be drawn to connect values at six-month or yearly intervals.

What is a reasonable appreciation rate to use as a working tool? If the rate is too high it will encourage excessive turnover of stocks with possible worse results than if a more attainable rate were used. Rates of 20% to 40% a year appear appropriate for use, recognizing that overall results will probably fall short of the rate against which each investment is measured.

When the investor has attained a portfolio consisting of only a few stocks held in depth, and is sure he would like to have more of each—and would find it difficult to choose one stock over another for further buying—he has achieved the enviable position of holding a dynamic capital-gains portfolio, subject only to the hazard of peace scares, strikes, economic downturns, revolts in the Tropics, rapid technological obsolescence and all the other contingencies which make the stock market such a fascinating operation.

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A service of Gulf Oil Corporation in the cause of creating—through the facts as we see them—a fuller understanding of the oil industry.

How competitive are the oil giants?

Periodically, oil's critics revive an old familiar story. Through some kind of back-room collusion, they suggest, the oil giants limit competition. They rig prices or otherwise conspire to their advantage. Sometimes, it is obvious these critics have disregarded the facts. Other times, they have misunderstood them or miscalculated their effect. In light of this, what exactly *are* the facts? . . .

Q. Let's clarify what we mean by "giants." How big are oil companies?

A. Look over any list of the U.S.' biggest companies. You'll find oil companies on it. This is true whether the measure is total assets, sales or what-have-you. And it's no accident. Oil companies feed one of our biggest appetites. In finding oil, their risks are high. And every operating step—transporting, refining, marketing oil—is a giant, complex one.

Q. Doesn't this situation in itself serve to scare off competition?

A. Not true. For every oil giant, there are hundreds of small to medium companies. Today's oil industry is made up of some 170,000 independent companies. And these companies are active in every phase of the business.

Q. Doesn't oil face the same trend so many other industries do? Aren't the big ones getting bigger?

A. The facts may surprise you. Let's take the country's five top oil companies (of which Gulf is one). Comparing U. S. refinery runs, 1958 vs. 1948, we find the giants' total in barrels per day is up, 2,985,355 as against 2,431,950. They have grown in assets and production. *But . . .* over the same 10 years, these companies' overall share of market has actually dropped.

Q. How do you reach this conclusion?

A. In this period, the industry as a whole boosted its runs to 7,605,700 barrels a day from 5,596,600. A little comparing shows the giants' share is down from 43.5% to 39.3%. *Counter* to the general trend, the small and medium companies are getting a growing slice of the expanding market.

Q. But look at our gasoline prices. What break does the consumer get?

A. You judge. Subtract the taxes you pay on a gallon of today's gasoline—often 10¢ a gallon or more—and you find it is a bargain few other commodities can match. As a result of competition and technological efficiencies, it costs just about the same as it did in the early '20's. And three gallons do the work four used to do.

Q. What about the price-rigging charges that oil's critics make?

A. The facts categorically deny them. At Gulf Coast refineries, the going price for gasoline bought in tankers is called the "effective" price. By definition, this is a competitive price—the lowest price a seller quotes that other sellers will meet. And in 1958, this price seesawed 10 times. For 100 octane, it ranged from 14¢ to 12.6¢ a gallon. That's quite a range when you translate it into bulk gallonage.

Q. Is this openly competitive price structure reflected all along the line?

A. It starts right with the purchase of crude oil. Here, prices respond to the refiners' demand. Obviously, the public doesn't buy crude oil. But it should be pointed out that, both here and at the refinery, the public does strongly influence pricing. It does this through its demand for the more than 2,500 consumer products derived from oil.

Q. The prices that seem to count most are consumer prices. What of them?

A. Here, prices vary all over the map as the competitive situation varies. Let's take gasoline again. Most of us live and drive in one area. We aren't too aware of price variations. But look at some typical dealer selling prices of Good Gulf per gallon, as they were without tax on August 1: New York, 24.5¢; Atlanta, 22.4¢; Houston, 20.7¢; Boston, 18.4¢; and Chicago, 23.9¢.

Q. What of other oil products? Is price competition as free-swinging?

A. In many cases, it's even keener. In gasoline's case, it's just about the only product people use to move their cars. But take home heating oils. Here, there's an *added* reason to keep prices competitive. If a company doesn't, it'll quickly lose out to natural gas and other forms of heating.

Q. Beyond pricing, how does our "competition among giants" work out?

A. They face a unique technical competition, for one thing. If a refiner wants to stay in business, he must constantly try to get a better product yield from each barrel of crude than his competitor. And he must match this yield to the specific market demand for oil products. Beyond this, the giants square off everywhere any company would. In short, everywhere they meet. And that means from the oil-hunting fields right to the service station ramp.

Q. Oil is a world-wide business. How competitive is world competition?

A. Here, you have to add in the competition of every other oil-consuming country. Many, remember, have little or no crude oil of their own. The fight for oil concession rights is intense. And no oil is profitable until it is sold. Finding markets and moving oil economically are fights in themselves.

We welcome further questions and comment. Please address them to Gulf Oil Corp., Room 1300, Gulf Bldg., Pittsburgh 30, Pa.

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A New Economic Barometer Needed

To Measure Impact of Peacetime Defense Expenditures

by Casper M. Bower

THE PEACETIME DEFENSE INDUSTRY was a mere infant just a few years ago. Today, it is a colossus. It is big in size and its circuits of influence fan out in many directions. It has, unquestionably, a heavy impact on some of the economic forces which mold the health of the nation's business. I submit therefore, that the finally approved defense aggregate should now be added to eight other "lead" barometers, considered by some economists, to be the forecasters of changing business.

Some 4,500 plants and about a million men and women are busily researching and manufacturing myriad electronic products for the ultimate civilian and military markets. But of considerable consequence to the state of the nation's business, and to these thousands of electronics firms, are the many billions of dollars spent annually for militant and advanced scientific purposes on earth and, in outer space.

These expenditures are, and will continue to be heavily under-written by annual government appropriations. Pending Congressional approval, the debates and appropriations, particularly for future specific amounts, can, and for reasons I subsequently develop, apparently do generate doubts about and even shifts in the conditions of overall business.

As such, the new fiscal stature of what we may presume to call the "permanent defense industry", coupled with erratic economic side effects which seemingly stem from sudden contract cancellations and material revisions in appropriated dollar volume should be evaluated constantly by all defense equipment suppliers. And, it might behoove other industrial managements to keep their probes on this sensitive area of government spending.

In the light of these remarks, I offer defense managements, financial analysts and others as well, these three postulations:

One—that the year-by-year-amounts of defense expenditures may become a sensitive economic barometer, its rise and fall influencing the purchasing moods of the public and business men alike. And, the varying amounts of defense expenditures will, in my judgment, influence industrial stock prices. Some prominent economists include security price averages among the eight lead bellweathers of business changes. There is evidence too, as I discuss later, that a sustained reversal in the direction of security prices—induced by Congressional debates, or the actual contraction or expansion in defense appropriations—can trigger consumer chain reactions which affect all types of business, other than military. In fact, the cyclical movement of security prices appears to perform a dual role of forecasting and influencing business activity.

My second point is, that whether or not a summit meeting as such is ultimately held, the amount of annual defense appropriations will continue to be a political football—kicked by the lobbies for or against expanding defense needs. The public, and many company managements, will be hard pressed to assess the validity of the conflicting issues in the face of bombast from protagonists on either end, and the appeals from neutrals in the middle.

My third point is that electronic companies, particularly those feeding almost completely from the trough of defense money, should add a military-economist to their managerial staffs. A few pioneering firms already have recognized this need and have hired such an economist.

Would Work as Expert Analyst

Here is how his job description might read:

His military function would be to separate fact from fiction in the muddy stream of domestic and foreign propaganda calculated to influence the nation's program for national and international security. This need was highlighted recently by conflicting views regarding the future course of defense spending which may follow the Eisenhower-Khrushchev meetings. For example, on August 10, a leading electronic weekly newspaper summarized its canvass of the electronics industry's sentiment about the outcome of these meetings. It observed: "Industry Seen Unaffected by Ike-Khrushchev Visits". By contrast, the Wall Street Journal on August 20, commented as follows: "Administration Expects Ike-Khrushchev Talks to Help Curb Outlays".

As an economist, he can assist his management in many ways. One important function, and extremely timely now, would be to help steer corporate policy safely through the shoals of what I term "electronic

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Although this article was, in substance, originally presented as an address by the author, before the October 13 meeting of the National Electronics conference, its economic and financial significance is such that the editors of this publication are presenting it for the first time in print.—Editor.

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euphoria"—or, as the psychiatrists would say, an exaggerated buoyancy and sense of well-being. And this way of economic life seemingly has enveloped many unseasoned electronic company managements who are inclined to believe that defense funds are a one-way street going upwards only.

This military-economist should evaluate the effects of expanded or contracted defense funds on overall business activity. And, in the light of the unexpected business recession which followed the government's 1957 defense economy moves—about which I later present some provocative data—this contribution to management will be vital. He should also provide financial, marketing and other functions essential to corporate health and growth.

An economist's "tool crib" for business forecasting includes index numbers, seasonally adjusted or weighted averages, dollars expended for goods and services, and many others. However, all these tools fall considerably short of providing bases for precise conclusions because of two vital factors:

1—The long time-lag required to collect, collate and interpret these data.

2—And likely the most important, the imponderables of human behavior.

Vast sums are spent annually by the Department of Commerce, the Federal Reserve Banks, the National Banks, and many public and private agencies, in exhaustive efforts to forecast future business activity.

The economists for these groups peer ahead by looking backwards to study past storms and blue skies, as pictured by the assorted indexes.

Yet, to date, no agency, public or private, has yet constructed an index or combination of indexes which can presage, with any satisfactory degree of accuracy, when or why the capricious fountainhead of all business —namely, human buying behavior—will alter its course.

Recently, for example, one Federal Reserve Board bank, after devoting hundreds of words to the near-term business outlook, concluded with restrained frustration, and I quote: "It is difficult to predict what the consumer will do next week, next month, or next year." Another nationwide statistical service, used by important banking and brokerage firms, commented on this point by similarly stating that half the increase in the 1949-1957 bull market "was due to improvement in intangibles including the 'feelings of investors.' "

The economic force exerted on industry by this fickleness of public sentiment and moods, as measured by consumer purchases, is enormous. And, the importance of these consumer mood swings, on the volume of the nation's business, is of major economic significance.

As consumers, we buy and use almost two-thirds of the current estimated 484 billions of Gross National Product—which of course is the dollar value of the nation's output for goods and services. And the collective consumer mood (on which this two-thirds of all purchases depend) is like an impenetrable fog; it is unyielding to a clearly chartered business forecast.

The other important one-third of GNP comprises expenditures by government and all types of business for such activities as new plants, inventories, road construction, and spending for local and national defense.

And I suggest here that national defense expenditures which account for a minor 8% or so of the estimated 1959 GNP influences substantially the buy or not-to-buy psychology of the public and business men too. As such, defense dollars may become a tail that helps to wag the dog of our economy.

The linkage I foresee, is the fact that within the past three years, a significant public movement has, and is still occurring, which economists have not yet gauged or, perhaps, even added to their analytical tools. Yet, in my judgment, it may provide a stethoscopic reading of consumer mood sensitivity heretofore only casually considered.

Significance of New Shareholders

I refer to the sharp and expanding increase in the number of individuals who, for the first time, have become shareholders in American industry. The New York Stock Exchange recently released these data on this subject: In 1959, almost 12.5 million individuals owned shares in industry—an all time high. This 1959 total stockholding group represented a gain of 45% over the 1956 total of 8.6 millions, and 92% over the 1952 totals of 6.5 millions.

These millions of people are now acutely aware of and sensitive to stock averages, earnings reports, dividend rates, government deficits and surpluses. Most likely too, they are taking a much keener interest than ever before in the annual defense discussions and final Congressional appropriations.

A thought-provoking item in the New York Stock Exchange's shareholder census was that the average annual household income of approximately 47% of these new millions of stockholders was about $6,900. These shareholders, as you can judge, are not very wealthy capitalists by any stretch of the imagination, particularly when you consider rising living costs, and the sharp 23% increase of consumer installment debt which since 1956, must be repaid or provided for from the weekly pay check.

Thus, in the brief three years from 1956 to 1959, several million individuals have been initiated to the exciting exhilaration of easily-made capital gain or, the mental depression of ill-afforded capital loss.

As shareholders, this group reads and listens avidly to news which contributes mystically to the ups and downs in the market value of their small nest eggs. In this way, a broad "News-Sensitive" buying group—representing perhaps some 15-20% of the average family unit population of the country—now contributes its collective unpredictable buying habits to the nation's economy influenced by security price gyrations.

Apart from stock market talk, probably the most discussed household subject, at every economic level today, is our cold war relations with the Russians, and, the collateral issues of defense expenditures. Not only

CITED BY MOSCOW'S PRAVDA

Indicative of Author Bower's 1959 predictions about the now well-established Eisenhower-Khrushchev meeting, and other comments made by the author, is the fact that Communism's leading newspaper, *Pravda,* branded him as a "money-grabbing businessman" and among the " 'cold war' inspirers."

in households, but, as we well know, these issues are being discussed—and acted upon—in Congress and the White House. Geographic, sectional and political pressures for increased or static appropriations are likely to continue unabated should a summit meeting point, however obliquely, to a so-called co-existence program.

Defense Dollars—Stethoscopic

In this climate, and recalling the business anguish of the 1957 defense economy moves, there are probably only a few Congressmen and business leaders who care to plead the fiscal and economic causes for sound defense appropriation administration. And when these courageous voices do speak out, they argue that a permanent peace-time defense program, elevated above the level of political interference, would likely yield as much unit numbers, if not more, with substantially fewer dollars, than are now produced under a national security program undermined by the well-publicized jealousies of the different military services.

But, it is likely that great pressures for downward revision of defense funds will be exerted from some groups if the post-summit meeting, as I said, even hints at a substitution of peaceful co-existence to replace the past 10 years of cold war between us and the Russians.

In this vein, let me modestly call your attention to the fact that I have personally been branded by the Russian newspaper, *Pravda* as being, and I quote, among, "money-grabbing businessmen . . . and . . . 'cold war' inspirers." The reason for this personal attack upon me was occasioned by an article I wrote in the June 5, 1959 issue of McGraw-Hill's "Electronics" entitled "What if Peace Breaks Out?"

Though they quoted me out of context, and paraphrased my words, here is what *Pravda's* editors said of how I approached the Geneva conference and the forthcoming summit meeting. Quote: "The likelihood of Khrushchev meeting Eisenhower seems quite definite. It will probably result in propaganda with the objective of minimizing the importance of a military approach to problems. . . This will particularly affect supplies of missiles with warheads and other specific weapons."

The Russians continue, and I quote: "What will happen if peace breaks out tomorrow? The exceedingly high electronic share quotations may easily drop. The lessening of tension will mean 'debacle'." They conclude: "Not everyone puts it so bluntly in the press as the New York businessman."

My point still is—the Russians notwithstanding—that defense spending has become woven into the warp and woof of our economy. Pull out a few threads of that fabric and there is severe dislocation.

The nationwide recession and unemployment of technicians and others, which followed the abortive Spring 1957 defense retrenchment program, is probably still acrid in the minds of Congressmen, managers and employees of companies who survive on defense funds. Particularly hard-hit, too, by this unemployment were businesses in small cities and towns which sprung up from the seeds of defense dollars.

Defense Dollars Affect Economy

A flashback to the situation in the Spring of 1957 can show us the new importance and manner by which actual variations in peacetime defense spending can and did affect the nation's economy. No less an authority than the federal government's Department of Commerce, in its U. S. Income and Outgo supplement to the Survey of Current Business observed, that government decisions in the Spring of 1957 to ease budgetry pressures by cutting back the future rate of Federal purchasing, including defense spending, was among the depressing influences on the 1957 decline.

The response of the stock market, or perhaps to put it more aptly, the public's attitude or measurable reaction toward the five-month period from the start of defense economy to the announcement that defense spending would be resumed, is most revealing.

You recall, I suggested previously that the movement of industrial stock averages, in addition to its acceptance as a "lead" business barometer, is now, because of wider public stock ownership, a powerful influencer of business tempo. Here is an abridged history of stock averages and business conditions following the 1957 Spring retrenchment program to the October decision to renew spending. First to the stock averages:

In June 1957, the Standard & Poor's measurement of industrial stock averages was 47.55. By the end of July, they had risen to the year's peak of 48.51. About this time, implications of defense economy moves, including progress payment stretch-outs, were receiving widescale publicity over radio and television and in newspapers, as were the rising level of sectional unemployment and other side-effects.

These mass communications media reach partially into every financial and social segment of our population structure. And, by the end of August 1957, just one month after security prices reached the high of the year, the industrial stock averages dropped 6% to 45.84.

Now, and only because it emphasizes the complexities of business forecasting, and because no other index had shown any signs of significant erosion, and finally, because it spotlights the business influencing potency of the stock averages, I quote from a September 1957 issue of an economic bulletin which offered these following profound forecasts as to the business outlook ahead in light of this 6% drop:

> "Of more tangible importance to the market, however, have been some positive signs from business. These keep pointing to comparative stability ahead, not a recession. . . . Over the past months or so, the [stock] market's weakness was in part due to cuts in defense appropriations and arms orders. Russia's announcement of an ICBM may be another propaganda lie. . . The unsatisfactory behavior of the [stock] market in recent weeks is not traceable to cracks or crumbling within the economy. The business structure is not shaky. Its condition does not justify serious fears on the part of investors."

This statistical organization was not alone in its bullish views on the likely course of business in the face of stock market warnings to the contrary. A former chairman of the President's Council of Economic Advisors was quoted on the business outlook at that time as follows: "There is no financial house of cards under the business situation."

Mind you, these sanguine business activity predictions were offered in September 1957, just one month after the 6% decline took place in the stock averages.

The stock market however, reflecting a mosaic of public mood sentiment and suspicion, ignored these and other optimistic forecasts. Share values kept declining sharply until practically October 1957. Then the selling wave stopped. This was the month coincidently, that Russia flung Sputnik Number One into outer space. And our administration, needled by Russia's unexpected promotion to the head of the missile class, publicly announced its plan to renew its defense spending. Actually, however, spending resumption did not take place until about April 1958.

Now to the performance of business following these September auguries of continued good health. You all know the answer, but let me thumb nail sketch it again. Obviously influenced by shrinking security price values, kicked off by the August decline, the steepest of the post war recessions was gathering momentum which would not be fully spent until at least April of the following year.

Here are some of the barometric readings for this period: Gross national product lost $19.8 billions in six months. Inventories accumulating at an annual rate of $2.2 billions shrunk by almost $5.5 billions for the year. The Federal Reserve Board Index of Industrial Production slid from the September rate of 144 to an April 1958 low of 128. Corporate spending for new plant and equipment dropped from a July-September 1957 rate of almost $38 billions to July-September 1958 rate of $29 billions. And corporate earnings which had been swollen by peak activity for the first six to nine months of 1957 had begun to ebb.

This then was the aftermath of the broadened public's views of the economic impact of contracted defense spending, transferred to security price selling which, in turn, unsettled corporate managements opinions and convictions about the health of forthcoming business.

Thus, within three months from the general date of defense economy (using May 1957 as the genesis), the public took to its collective economic heels, and within two months thereafter, business men, taking the cue from the public's likely change in attitude or buying sentiment, began to retrench in the various ways possible to them.

Defense Dollars Up, Hysteria Down

Meanwhile, as I stated, stock averages, for all practical purposes arrested their decline in October. Thereafter, and until December 1957—a month in which tax selling is always an influencing factor—losses were minimal. In fact, industrial stock averages receded only 1% from October to December, whereas the loss from the July peak to the October low was 15%.

Thus, to summarize the downward phase of the past recession, it appears the public arrested its hysterical and infectious selling when assurances were made that defense spending was to be resumed. This action appears to lend credence to the view that the stock market today, because of the greater numbers of individuals who are becoming shareholders probably mirrors more swiftly and more accurately public mood and sentiment than ever before.

These millions of new shareholders are not generally well-informed as to the intricacies of economics—a science designed to measure their mass or collective behavior—and are well likely to react to propaganda and applied psychology with such force and vigor as to change the upward or downward course of business—contrary to expectations of the sagest of "economists."

Not to be overlooked in this appraisal are the stockholder managers of businesses—large and small. Their business requirement buying moods can be just as much influenced by unanticipated changes in stock market patterns as are those of the low and medium income wage earning stockholders.

And it is more than likely that some of their company decisions to spend or not to spend for new plant construction, inventories and other daily activities, involving expenditure of company money, are shaped by their personal reactions to unforeseen major stock price changes. The overall fulfillment of these business requirements represents a significant portion of Gross National Product and, as such, plays a leading role in what will be the health of the nation's economy.

So much for the recession, one of its principal causes, and the economic influence of increasing numbers of shareholders who, as they buy and sell securities, become an integral part of an index number and, concurrently, shape the pattern of business.

While the foregoing observations are essentially empirical, it is well to review the security price trends and business events which followed the federal government's October 1957 announcement to resume defense spending.

Within two to three months—in fact starting with the second day of January 1958—industrial stock averages began a steady month-by-month march upward. This climb contradicted those who foresaw lower security prices, in that business activity really hit the skids during the first quarters of 1958.

Many economists, early in mid-year, proposed that the business recovery, when it occurred, would take the form of a saucer, that is, level off and remain static at the low level. Thereafter, recovery upward would be slow and gradual. As we now know, following the low point about May-June of 1958, the "patient" recovered rapidly and robustly, contrary to the predictions of only a paced return to health.

Today, we are faced with an economic and defense picture, almost a facsimile of that which obtained in 1957. Business is or was at an all-time high level, defense appropriations may be subjected to a realistic pruning, and stock prices hit all time highs on August 3rd. They dropped 3.4% since then, following the Eisenhower-Khrushchev announcements of joint meetings.

The answer to the general business picture ahead, in light of the confused defense and national security program, military contract cancellations and so on, may very well lie within the area of public sentiment and psychology.

I therefore conclude by suggesting that the corporate need for economic and military guidance in this present welter of confusion is self-evident.

Editor's note: Readers interested in Mr. Bower's observations undoubtedly will wish to see Dr. Murray L. Weidenbaum's article, which will be published in our January 1960 issue, on "Analysis of Military Markets". It is, in a way, a companion piece.

San Francisco Analysts Study Federal Reserve

MEMBERS OF THE SECURITY ANALYSTS of San Francisco were afforded the opportunity of an authoritative analysis of the Federal Reserve System and its functions in two seminars. Each seminar consisted of three sessions of two and one-half hours each. Altogether, 55 members of the San Francisco society participated.

Topics discussed included the Federal Reserve System organization and functions; reserve base and bank credit expansion; instruments of regulation; purposes and objectives of policy; formulation of policy and tracing of effects; debt management and monetary policy; open market operations; and the interpretation of financial statistics.

Analysts enrolled for each of the two seminars were also taken on a tour of the Federal Reserve Bank of San Francisco. The extensive check collection operation, utilizing huge banks of IBM proof machines, and the vaults containing many millions of dollars of currency and gold were features of the tour.

While the Federal Reserve Bank of San Francisco has held seminars for university professors of money and banking, this was the first held for Security Analysts. It is planned to offer a similar program from time-to-time in the future.

The members of the Security Analysts of San Francisco who attended have been enthusiastic in their comments. All felt that they had reached a better understanding of the nature and functions of central banking and that the sponsorship of the Federal Reserve Bank and participation of its economists resulted in a more intimate view of the workings of central banking than is usually available.

Oliver P. Wheeler, vice president of the Federal Reserve Bank of San Francisco, was general chairman. Speakers, all of the Federal Reserve Bank, were: Robert Einzig, assistant vice president; Gault Lynn, senior economist; Harry Schwartz, senior economist; and Jeanette Stoops, Charles Petersen, and Herbert Runyon, associate economists.

Indianapolis Analysts Society Becomes 23rd NFFAS Member

The Indianapolis Society of Financial Analysts has become the 23rd member of The National Federation of Financial Analysts Societies, according to an announcement from George M. Hansen, executive secretary-treasurer of The National Federation.

Luther C. Dilatush, Merchants National Bank & Trust Co., is president; Donald S. Lawhorn, financial analyst in the investment division, American United Life Insurance Co., is vice president; and Myron J. McKee Jr, State Automobile Insurance Association, is secretary-treasurer.

There are 39 regular members of the Indianapolis Society, and 21 associate members. Names of the regular members are:

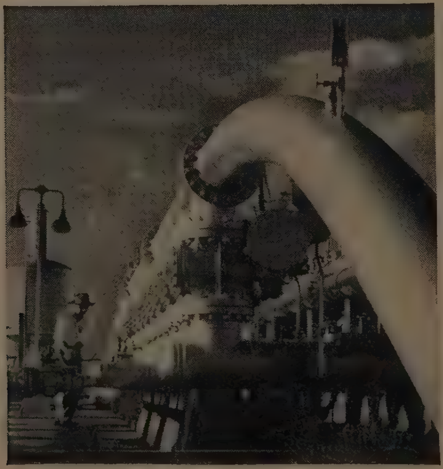
C. O. Alig, Jr., James F. Bash, Gordon L. Bowyer, Morris L. Brown, C. B. Camp, Miss Anna E. Carpenter, John J. Carter, G. Dana Chandler, William P. Cooling, Luther C. Dilatush, Frank A. Ellis, Neil C. Estabrook, Charles M. Harrison, William R. Higgins, Jr., John E. Hollett, Jr., Henry Holt, Jr., Ford H. Kaufman, T. Gordon Kelly, Julian A. Kiser, Alvin L. Kuehn, Donald S. Lawhorn, Claude H. Mathews, John J. McGuire, Myron J. McKee, Jr., E. Kirk McKinney, Jr., G. W. Newlin, Meredith Nicholson III.

Also: Dr. David R. Roberts, Dr. Harry Sauvain, Henry F. Schricker, Jr., Leonard D. Schutt, Carl W. Seet, Jr., Edward H. Stein, Robert Stith, Frank J. Travers, Robert R. Tripp, J. Joseph Tuohy, George J. Vandivier, Walter V. Wichterman.

Names of the associate members are: James F. Ackerman, Alex S. Carroll, Gordon K. Cohn, Bert L. Combs, William G. Curry, Richard L. Davies, Thomas F. Evans, Don W. Goelzer, William C. Griffith, Jr., W. Steward LaRue, Everett Lett, Raymond F. Mead, Wayne E. Paulsen, John C. Schick, Miss Martha M. Shertzer, Roger A. Stefany, Leland Tanner, King R. Traub, Harry V. Wade, Jr., Paul P. Walther, Paul Wolf.

NEWS ON TEXACO PROGRESS

The underground road to market



▲ **YESTERDAY.** Texaco's early growth was speeded by its promptness in getting pipelines to rich new oil fields as they were discovered. Texaco was a pioneer in constructing longer, more strategic pipelines. In fact, one of the first acts of Texaco when it was born in 1902, was to complete a line from the fabulous Spindletop field to Port Arthur.

◀ **TODAY.** More oil is transported to market by pipeline than by any other carrier. Texaco's own 7,000 mile pipeline network is an important factor in the efficiency of its integrated operation. To the consumer, this means more and better Texaco products at lower cost. And it symbolizes the enterprising spirit that characterizes Texaco's corporate operations.

TEXACO
. . . CONSTANT PROGRESS
IN OIL'S FIRST CENTURY

The Railroads: A Year of Decision

by R. Wright Armstrong

THE RAILROADS ARE of such fundamental importance to the economy of the United States that certain current observations, on the part of an operating executive may be of interest to Financial Security Analysts.

Moreover, it may be surprising to many that the rate of return of the railroads' net property investment in 1958 was 2.76%. It was only 3.36% in 1957, and last year the cash position of the railroads fell to such an extent that they could have operated for only 20 days or so without benefit of their daily receipts. The railroads' cash position this year is only slightly better.

In 1946 the railroads employed 1,358,838 people. It is estimated that at the end of last year the railroads employed only 840,763 people.

My observations in this article are based on the following premises:

1. This vast country of ours could hardly exist economically without the railroads.
2. No other form of transportation has as yet been invented which can move masses of goods and people as economically and as efficiently as these railroads.

Barges, coast-wise steamships, airplanes, private automobiles, busses and intercity trucks have taken away much of the freight and passenger business the railroads formerly handled.

If this country should suddenly find itself confronted with a national emergency (and I speak now as an old soldier with actual experience overseas in two World Wars) a weak and inefficient railroad industry would contribute much toward our defeat.

Now, some comments about the ills which afflict the railroad industry.

First of all, please remember that the railroads of this country are denied by law—both state and federal—the privilege of meeting their price competition immediately as they are faced with it.

Further, if you find that your gross income is not sufficient to pay your operating expenses, you can overnight reduce these expenses by two methods: By reducing your labor pay scale and by reducing your employee force.

The railroads in certain instances can reduce their labor force, but in some instances they cannot even do that without going before the National Railway Adjustment Board.

When it comes to reducing wages, we can get no relief here, as these wage scales are all agreed to in a very vicious circle of labor conferences between the heads of the national railroad labor unions and railroad representatives. When railroad management refuses to agree to certain conditions of employment, which would in the end increase the amount of the payroll, the railroad labor crafts then threaten to strike.

When the strike is announced, the President of the United States appoints an Emergency Board of three members. They go to the scene of the strike and endeavor to the best of their abilities to get management and the unions to agree. There is a time limit for the Board to render a decision. Following the decision of the Board there is a so-called "cooling-off" period of 30 days, after which if the unions do not accept the Board's decision, they are free to call a strike.

Rails Accept Decision—Regardless

As a general rule, however, railroad management has taken the view that from a public relations standpoint they have no alternative but to accept the Board's decision, regardless of what they think of its justness. There are other parts of the Railway Labor Act which call for a mediator or referee to endeavor to settle other disputes between railroad management and labor unions.

Simply to give you an idea of what an increased wage award would mean, even on a small railroad like the Fort Worth and Denver, where we employ some 1,800 people, a 1 cent per hour increase in wages adds a little over $40,000 a year to our payroll cost. So when I tell you that in 1958 our employees received an increase of 12 cents an hour in wages (4 cents on one occasion and 8 cents on another), you can readily see that our labor costs increased some $480,000 annually—without our even having the hope or expectation of handling a single additional carload or passenger to help pay this increased cost of operation.

If any other segment of business becomes involved in a similar dispute, immediately following the wage increase there is nothing to prevent such industries from immediately increasing the price of their goods and/or services.

As an example, take the steel companies. Should they finally make a settlement with the unions which increases their costs, as soon as the mills are opened the steel companies will immediately be able to pass this increase along to the public by increasing the price of products.

Here again the hands of the railroads are tied. We cannot increase our rates without specific permission from the Interstate Commerce Commission and the various state regulatory bodies involved. Needless to

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R. Wright Armstrong, vice president of Fort Worth and Denver Railway Company (a subsidiary of the Burlington System), has been a railroad man for 35 years, with a wealth of experience in line and staff positions. Mr. Armstrong is also a vice president and director of The Burlington-Rock Island Railway Company; a trustee of the Texas A. & M. Research Foundation; a director and past president of the West Texas Chamber of Commerce; and a director of the Fort Worth Chamber of Commerce.

say, when we do make applications to increase our rates, this permission is not given immediately, and, in fact, in many instances our requests for increases on specific commodities are denied.

The next matter I should like to bring to your attention is the actual labor situation within our industry.

The president of the Association of American Railroads has said that the railroads of America pay $500 million a year for work not performed. This is roughly 10% of the railroads' total payroll and about 5% of all railroad gross revenues. (See "The Transportation Act of 1958", by Daniel P. Loomis, *The Analysts Journal,* November 1958, and "Railroads Aim to Win Union Battle", also *The Journal,* May 1959).

Such work not performed is called "featherbedding." According to legend, the term "featherbed" was born around 1900 when a train crew complained about the corncobs, shucks and cottonseed hulls in the mattresses in the caboose, the Trainmaster retorted, "What the hell do you damned brakemen want—feather beds?"

Legalized featherbedding originates from "excess crew" laws on the books of 16 states. Seven additional states empower public commissions to regulate the size of train crews. Estimated cost of the excess crewmen to the railroads is $50 million a year in wasted pay.

Examples of Featherbedding

As an example, one fast westbound freight train makes a stop every day at Breckenridge, Minn., not to pick up cars, but to take on a third brakeman. Two brakemen are enough for the train to cross Minnesota, but North Dakota has an excess crew law. Just over the Montana line, the train stops and lets the third brakeman off. Two brakemen are enough for the train to cross Montana and Idaho; but as the train nears the Washington border, a third brakeman is again added since Washington also has an excess crew law.

To bring this situation a little closer to home, on the Missouri Pacific Railroad, the city of Van Buren, Ark., is a division point. Arkansas has an excess crew law. The freight train out of Van Buren into Oklahoma must carry a third brakeman. As soon as the train out of Van Buren reaches the state border, 10 miles away at Greenwood Junction, Okla., the third brakeman gets off. For this long day's work, he gets a day's pay. On the return trip, the train picks him up at Greenwood Junction. Ten miles down the line at the division point, Van Buren, he gets off the train, but the new crew which gets on there includes a third brakeman as required by Arkansas law.

It may surprise you to know that even in these modern times 100 miles of freight travel constitutes a day's work. On passenger trains, 100 miles for enginemen and 150 miles for trainmen represent a day's work. These basic-day rules have been in effect without change since 1919. At that time the average speed of a freight train was 12½ miles per hour and the average speed of a passenger train was about 20 miles per hour. In 1957 the average speed of a passenger train was 40.2 miles per hour.

The railroad unions, through all these 40 intervening years, have been able to retain this mileage scale of pay for freight and passenger train employees—although the railroads have continually improved their roadbed, installed heavier rail and better signalling, as well as provided better cars and diesel locomotives, hump yards, and so on—which altogether contributed to a faster and more efficient train operation.

As an example, on our railroad today we operate a passenger train from Dallas to Denver, some 835 miles, in 18 hours. Many years ago, in the days of the steam-engine operation, we left Fort Worth with this train at 11 p.m. and arrived in Denver the following second morning some 33 hours later. Even though today our schedule is some 15 hours faster, this does not mean that we can pay these train employees any less basic days of work under the prevailing mileage scale of pay.

The crews on this Dallas to Denver passenger train are changed at various division points on the railroad. On our railroad, the enginemen are changed at Wichita Falls, Childress, Amarillo and Texline. On the Colorado and Southern Railway, the Burlington Lines part of our system that goes on into Denver, the enginemen are changed at Trinidad and Pueblo. Thus, for this train there are six enginemen changes between Dallas and Denver. There are four trainmen changes on the train between Dallas and Denver.

So, there is a total of 24 enginemen and trainmen required on this train from Dallas to Denver, not counting dining-car or Pullman employees.

For the round trip, these 24 men are paid a total of some $37,000 per month. Reducing this down means that it costs some $18,500 in wages for these men to run the train from Dallas to Denver, with a like cost for the return trip, over the month. On a daily basis, this is $617 per train for the 18-hour trip.

Another comment about the passenger trains: If we should have more than one Pullman car on the train, we must put a Pullman conductor on the train—even if he has no work to do.

In addition, each Pullman car must have a separate porter, although in today's modern cars, many of the passengers make down their own berths. In many instances, one porter could do the work in two of today's cars, but under our present contracts this economy cannot be put into effect.

The chef on a passenger-train dining-car today earns over $400 a month, and a waiter over $350 a month. Again using our railroad as an example, it takes a minimum of three chefs, under union-make-work rules to provide a chef on each dining-car every day of the month. I wonder if you can imagine any restaurant that could afford to pay $1,200 a month for a cook and over $1,000 a month for a waiter?

I happen to be president of the Dallas Union Terminal. It may interest you to know that the Dallas station Redcap operation for the year 1957 resulted in a loss of $41,184.41.

The Burden of 'Arbitraries'

Another burden the railroads must bear is what we call "arbitraries." The best example I can give you of this on our railroad is that we used to run a local train from Teague to Tomball. We didn't maintain a switch engine or switch crew at Tomball. Naturally the steam engine off the local train had to be turned at Tomball before returning to Teague. We did have a wye at Tomball; so, the engineer of the local train turned the engine and caboose on the wye while the conductor threw the necessary switches. For this strenuous work (that took them about 15 minutes), we were required to pay a full day's salary in addition to the regular one they earned.

Now, a word about the fireman on the diesel locomotive.

The diesel railroad locomotive originated on the Burlington. In the earlier part of the 1930's, diesel-powered passenger trains were operated without firemen. Diesel-powered yard locomotives were operated without firemen for 12 years prior to 1937. In that year, under threat of imminent strike by the Brotherhood of Locomotive Firemen and Enginemen, the railroad industry signed what is called the National Firemen's Diesel Agreement, which provided that effective March 15, 1937, firemen would be employed on diesel locomotives.

The fact that firemen on diesel or electric locomotives make no material contribution to safety or efficiency in either freight or yard service, was the firm conclusion of an impartial Royal Commission appointed by the Canadian Government to investigate the advisability of removing firemen from diesel locomotives of the Canadian Pacific Railway. In its report of December 1957 the Commission rejected completely every contention of the Brotherhood of Railroad Firemen and Enginemen that firemen are needed in the cabs of diesel locomotives in freight or yard service. The functions of firemen, the Commission said, "have either totally disappeared—as in the case of the production of power, mechanical assistance and inspection—or are a mere duplication of what is discharged by another or others, as in the case of the lookout functions performed by the head-end brakeman and the engineer.

The shortest day of the year, paywise, can be any day that a road crew does a few minutes' work in a yard—or vice versa. In one case, a road freight engineer got an extra day's pay at yard rates for moving his train the length of 40 cars in a freight yard. In another case a yard crew made a four-mile round trip to pull a freight train out of drifting snow and got paid for not four miles, but 100 miles, a basic day's pay.

One railroad paid a maintenance-of-way engineer and a fireman to operate a steam-ditcher on a yard track. An engine-service engineer and a fireman also had to be paid for *not* operating the steam-ditcher. They just sat by and watched. One day the maintenance-of-way fireman didn't report for work, and the engine-service fireman had to leave his seat and do the actual firing. For this, he received an extra day's pay in addition to his pay-for-no work. Thus he was paid once for not doing the job and once for doing it—all in the same day.

On one of the Western railroads, a steam roller was being used to repair asphalt surfaces around a station. One day it spent a few minutes rolling down an asphalt strip between the rails at a pedestrian crossing. An eagle-eyed conductor and two brakemen promptly claimed that this made the steam roller a work train and that they were entitled to a day's pay for not being called to operate it. Their claim was upheld, and they got the money.

Such decisions illustrate another source of costly, make-work—featherbed rules on the railroads. Paying men to sit by and watch while others do the work is the most vicious of all types of featherbedding. This is what happens when authority to assign men as needed is taken from responsible railroad management, where it properly belongs, and is vested in a governmental body which has no responsibility to management, owners or employees for seeing that the enterprise operates profitably and in the most efficient manner possible.

Some Remedies Cited

Now, what can be done, fairly and equitably, to enable the privately owned railroad industry to obtain sufficient revenues to operate efficiently, pay fair salaries, maintain and improve the property, keep the equipment up to date, and pay something annually to the stockholders as a return on their investment, as well as have enough "net" left to be able to put aside for "a rainy day?"

There are many things that can be done, all of them aimed at equality of treatment and equality of opportunity for the railroads to do business.

The most important step which could possibly be taken, in my opinion (to enable the railroads of this country to increase their volume without serious injury to competitive, regulated transportation agencies and so help themselves in regaining health, a step which would also greatly serve the public interest) would be to eliminate that provision of the Interstate Commerce Act which exempts from regulation the transportation of agricultural commodities by motor vehicle. This exemption was enacted so that the farmer could truck his products from his farm to the market. Various court decisions over the years, however, have broadened this exemption to such an extent that fruits, vegetables, etc., are trucked from one coast of this country to the other. Even frozen foods are trucked under this exemption, as are—believe it or not—coffee beans imported from foreign countries.

Freight Discrepancies Explained

The unregulated trucking of agricultural products is of particular concern to the Western railroads. For your information, the Fort Worth and Denver depended upon agriculture and animals, and the by-products, for over 50% of its freight revenues last year.

There has been an increasing tendency for motor carriers which haul selected items of lucrative traffic, such as manufactured articles under regulation, from the centers of population into the agricultural regions west of the Mississippi, and where trucks become empty at interior points, to haul back grain or other agricultural products at unpublished prices which undercut railroad rates. These prices vary widely as between haulers, from community to community, and from day to day. They depend largely upon the number of trucks available in a given community on a particular day and are in no way related to what another may be charging from a different community in the same general area, or to what may be the rail charge from the same community or a community at which no such trucks are available. The truckers' charges are frequently quoted to elevator operators rather than farmers, the farmers having sold their grain to the elevator usually on the basis of the price at the closest primary market, less the rail—not truck—freight rate.

Present law does not permit the railroads to meet this competition. So, the railroads cannot hope to compete for this business even by reducing their rail rates below the out-of-pocket truck costs.

The railroads as we know them, under private ownership, own their facilities and are part of the communities and counties through which they pass. These railroads may soon pass into government ownership and operation. Briefly, I would like to remind you what this would mean to you as individual citizens, if and when this change ever takes place.

Think of the terrific tax burden which we as individuals would have to shoulder to take the place of the taxes the railroads pay throughout this nation—property taxes, school taxes, income taxes, franchise taxes, and so on. The railroads paid a total of $1,068,000,000 in all these various taxes in 1957. With the railroads under government operation, we as citizens would be called upon to pay additional taxes to make up for the loss of the taxes the railroads now pay.

Our government, in taking over the railroads, would certainly make some compensatory arrangement with the railroad stock and bondholders. This would increase our national debt by many, many billions of dollars. I don't think I need to comment upon what such a step would do to the economy of our nation.

Railroads Are Competitive

Now, with regard to our railroad service today, there is competition among the various railroads. You are at least free to select the mode of transportation you desire. In addition, you may select the individual carrier you wish to transport your goods. You have the privilege of negotiating rates with one carrier versus another. In contrast, did you ever try to negotiate rates with the Post Office Department?

I don't believe I have to comment upon what a "political football" the railroads would become if the government ever controlled them.

I am fearful that just such a turn of events might materialize.

Finally, the railroads should be allowed freedom in management. If we think a train can be run with "X" number of men, let the responsibility for such a decision rest with railroad management rather than have some law or commission take this decision out of management's hands.

For the benefit of the citizens, we simply must have an efficient railroad transportation system in the United States. The railroads must be allowed to operate on a common-sense basis. Let's stop all this pay for work not performed. Make us as railroad men put in at least a full day's work for a full day's pay.

STANDARD BRANDS
Incorporated

COMMON STOCK DIVIDEND

The Board of Directors increased the quarterly dividend rate to 37½c per share. This dividend is payable December 15th to stockholders of record on November 16, 1959.

PREFERRED STOCK DIVIDEND

The Board also declared a dividend of 87½c per share payable December 15th to stockholders of record on December 1, 1959.

Joseph H. Hoyt
Treasurer

October 22, 1959

EASTERN FINANCE CORPORATION

NOTICE OF DIVIDEND

A quarterly dividend of 10c per share has been declared payable on the 1st day of November, 1959 to stockholders of record at the close of business on the 20th day of October, 1959.

Newport News, Va. L. O. Morris
October 20, 1959. *Treasurer*

PUGET SOUND POWER & LIGHT COMPANY
Common Stock Dividend
No. 65

The Board of Directors has declared a dividend of 36c per share on Common Stock of Puget Sound Power & Light Company payable November 15, 1959, to stockholders of record at the close of business October 21, 1959.

FRANK MCLAUGHLIN
Chairman

Pacific Gas and Electric Company

DIVIDEND NOTICE
COMMON STOCK
DIVIDEND NO. 175

The Board of Directors on September 16, 1959, declared a cash dividend for the third quarter of the year of 65 cents per share upon the Company's common capital stock. This dividend will be paid by check on October 15, 1959, to common stockholders of record at the close of business on September 25, 1959.

K. C. CHRISTENSEN,
Vice President and Treasurer
San Francisco, Calif.

P·G·and E·

Beneficial Finance SYSTEM

Opens its 1200th Office

The new Beneficial office in Kealakekua, Hawaii is the 1200th unit in the world's largest system of finance offices, serving in 47 states and all 10 provinces of Canada.

The Kealakekua office is also further evidence of the continuing need for Beneficial's friendly, realistic service—which is now being used by more families in more places than ever before.

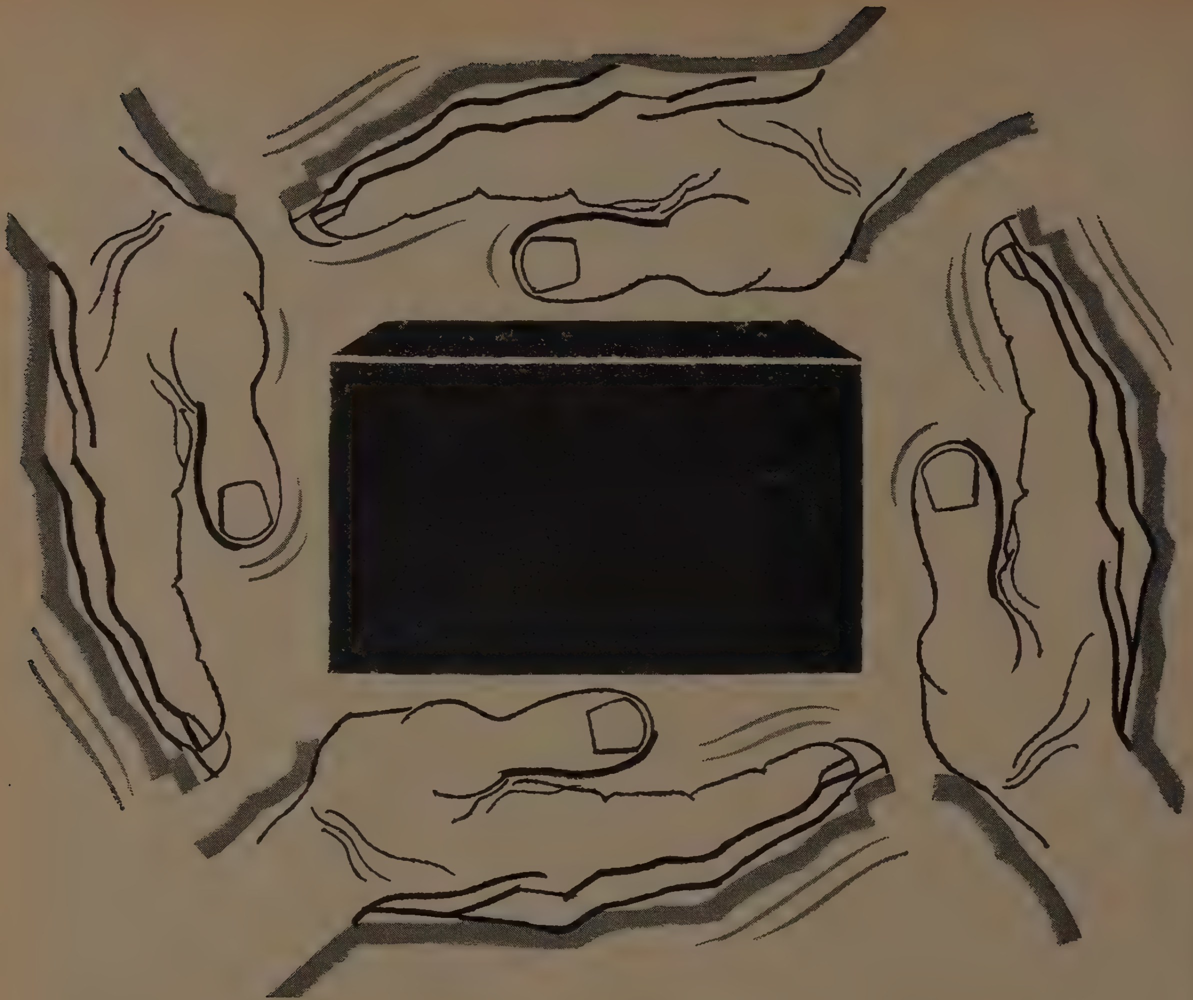
Now in its 46th year, Beneficial Finance System in 1959 will make approximately three-quarters of a billion dollars in "family-size" loans averaging around $450.

. . . a BENEFICIAL loan is for a beneficial purpose.

Beneficial Finance Co.

Beneficial Building, Wilmington, Delaware

1,200 OFFICES IN THE UNITED STATES AND CANADA



The new way this ingot is handled

shows why Republic Steel is the kind of company it is

A new slabbing mill was put in operation in Cleveland this year.

With the new larger soaking pits and wide slabbing mill, we are now able to roll up to 74″ wide straightaway at the strip mill. This eliminates cutting slabs into two or more pieces and rolling them cross-wise through the strip mill. Saved is the need to weld several coils together during finishing at strip mill; the waste later of cutting out the weld.

Oversimplified, these are some of the reasons why the Cleveland slabbing mill is more efficient at making slabs, and effects still additional savings later, at the strip mill. Furthermore, this new mill makes a much more desirable product.

This new mill is an important factor in the payoff of management's long range planning at Republic Steel. It is one of the fruits of the Capacity Expansion program begun four years ago.

REPUBLIC STEEL

CLEVELAND 1, OHIO

WORLD'S WIDEST RANGE OF STANDARD STEELS AND STEEL PRODUCTS

A Corporate Lawyer Looks At Industry and Finance

by S. David Leibowitt

THE ROLE OF CORPORATE ATTORNEY embraces a broad and varied field of activity. First of all, the attorney is father-confessor and advisor to the entire management family. Thus, in addition to his corporate duties, the personal problems of the executive group become his concern. Corporate executives, like all laymen, generally believe that the law is a hexagonal mirrored prism casting reflections in directions determined by alert counsel.

Accordingly, the corporate attorney must know *all* of the answers in *all* the fields of law ordinarily within the scope of a general practitioner, as well as in his specialized field.

Primarily, however, the corporate attorney is counsel for the corporation. His duties, therefore, embrace all phases of business law such as contracts, real estate, employment, insurance and other similar areas. In one field, however, the corporate attorney thoroughly distinguishes himself from his fellow members at the bar: this is the area of corporate finance. When confronted with financial problems, management invariably turns to its legal advisor for guidance, protection and a program of development.

Often management, perplexed by the instabilities or vagaries of business, seeks public funds as a means of supplementing a dwindling treasury. Some executives, unable to promote the companies' products, think it easier to sell the companies' securities to a speculative public. In this connection, the unhappy and uncurbed activities of "boiler-shop operations" lend substance to their otherwise naive concept. The newspapers and financial publications, high-lighting the gullibility of the investing public in some fraudulent mining and oil stock situations, lead some businessmen to believe that it is easier to sell an engraved piece of paper in a slow commodity market than to sell merchandise.

Corporate Finance Explained

The corporate attorney must then assume the role of instructor and explain to his clients the unvarnished, simple facts of corporate finance. He must point out the pitfalls and unhappy consequences that flow from improper, unwarranted, "half-baked" public financing. First, the lawyer must establish in the minds of these clients a healthy respect for the rules and regulations of the Securities and Exchange Commission and the various exchanges such as the New York Stock Exchange and the American Stock Exchange. The lawyer must also emphasize the necessity of doing business with reputable underwriters. He must outline the cost, expenses and—above all—possible loss of public confidence in the event the financial program fails. Usually, today, a public offering of securities is a sound solution, and the lawyer should be astute enough to recognize this situation. Our American capitalistic system is, after all, based upon public participation in the development of industry through public marketing of securities. In a proper case it falls upon the attorney to propose the sound capitalization of the company. He must guide and direct the underwriting and the type of securities to be sold.

In the course of 20 years as corporate counsel, this writer has seen innumerable business organizations develop into national and indeed international enterprises through public participation. Two such instances come readily to mind in the ladies' ready-to-wear business. Not too long ago, a small chain of ladies' retail stores in the Southwest did an annual volume of business less than $5,000,000. As general counsel, our law firm guided this organization into the public security market. We undertook a rather modest public issue of common stock and raised approximately $1,000,000. Today the company does yearly a volume of over $50,000,000 and boasts approximately 200 stores. The stock has tripled in value. Another chain of stores in the same area followed the example of its neighbor and did even better. Its stock has split at least three times and its earnings have increased many fold. The chain moved from 25 units to almost 250. Sound legal advice was an essential ingredient to the growth and development of both of these organizations.

And if a Corporation Fails . . .

The corporate lawyer must have a sound background in the laws of bankruptcy and reorganization. In recent years, much time has been devoted by our firm as general counsel to a manufacturing corporation whose securities are listed on a national stock exchange. The economic life of this company has fluctuated from profit to staggering losses. The company has gone through reorganization under Chapter 10 of the Bankruptcy Act

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S. David Leibowitt is a director and general counsel for Davega, Inc. Formerly he was general counsel for Bon-Ami Co. and Waltham Watch, Inc. He is also past president of New Haven Watch and Clock Co. Mr. Leibowitt is a graduate of Lehigh University and holds a LL.B. degree from Harvard University. With other attorneys, Mr. Leibowitt is currently developing a multi-million dollar sports area to be called the Davos Ski Center.

and in so doing discharged liabilities to the extent of four-and-a-half million dollars. In the course of this company's chaotic financial history, counsel dealt with creditors, made adjustments with the federal tax authorities, pleaded the company's cause with other regulatory bodies, and in general made possible a settlement of the company's debts and obligations on a fair and equitable basis to all. Then, to supplement inadequate working capital, counsel guided the corporation through an additional public financing program, a private debenture issue, and finally steered the company into a field of business activity entirely alien to its past. To accomplish these things, salaries were paid in stock, and engineering talent was lured by stock incentive and option plans.

Another area of activity into which corporate counsel invariably finds himself involved is in the Washington scene. Senate investigations and congressional committee hearings concerning regulations proposed or in existence are steadily growing. Corporate counsel must know in detail intricate export and import regulations. The tremendous pressure upon the American manufacturer presently exercised by our foreign competitors makes this area of legal activity particularly active.

Looking Both Ways at Once

It is interesting to note that the corporate counsel must be prepared to have "two heads to his coins" and to argue both sides of the question. In times of financial prosperity government regulation is furthest from the mind of the corporate executive. The less regulation, the happier are all concerned. In this period of laissez-faire, the corporate attorney must be ready to defend the ancient principles of rugged individualism and freedom from government interference. When the economy is less favorable to the businessman, then the lawyer must be prepared to seek government help in a multitude of directions. Tariff protection against alien competition becomes the theme of the day. Likewise, the hue and cry of the ethical businessman against the unscrupulous activities of the price cutter blaze forth in business publications. The corporate lawyer must then lead the pack. He must establish the indignities suffered by his honest client, and ask the government to interfere on his behalf.

No comments upon the activities of the corporate lawyer would be complete wtihout a reference to his role in labor relations. Here, legal questions must be tempered with understanding and the ability to deal with human beings in all walks of life. If the lawyer maintains good relations with the union, many problems —otherwise thorny and difficult—can be solved. Likewise, should there be an unhappy and unpleasant atmosphere, the slightest incident can lead to the crippling of an industry.

Finally, it may be observed that as our corporate texture becomes more interwoven, and corporate devices more complex, there is a greater and greater need for good and sound legal counsel. Stock splits, mergers, tax carry forwards, diversifications and consolidations of corporate entities—among other difficult and intricate problems—cannot be entrusted to those who are inexperienced and unprepared. On the contrary, corporations must look to lawyers well rounded in training and experience, and who have a broad comprehension of human problems.

Belgians Organize Society Of Financial Analysts

Formal organization of the "Association Belge des Analystes Financiers" (Belgian Association of Financial Analysts) was announced late in October by A. Laviolette, secretary general, in a letter to George M. Hansen, executive secretary and treasurer of the National Federation of Financial Analysts Societies.

Executive officers are: The Duke d'Ursel, director of Banque de Bruxelles, president; J. Baeckland, stock broker and president of Groupement des Agents de Change de la Province de Liege, vice president; and L. Verstraeten, manager of investment fund BEMAB (Kreditbank), vice-president.

Directors are: R. De Baerdemaker, secretary general of Comite National de l'Epargne Mobiliere; R. Dewaay, stock broker; J. M. Evrard-Jussiant, private investment adviser; G. Hanon de Louvet, chartered accountant; M. Lagasse de Locht, assistant manager of Banque de la Societe Generale de Belgique; R. L. Larcier, head of research department of Banque Lambert; and O. Reckelbus, manager of investment fund "GEVA" (Societe Belge de Banque).

Mr. Laviolette explained that members are "outstanding personalities of the major banks, of the corporation of stock brokers, and of private financial management." He added that the newly-formed Belgian Analysts Society "has secured the support of the Comite National de l'Epargne Mobiliere" (National Committee for Stock Investments).

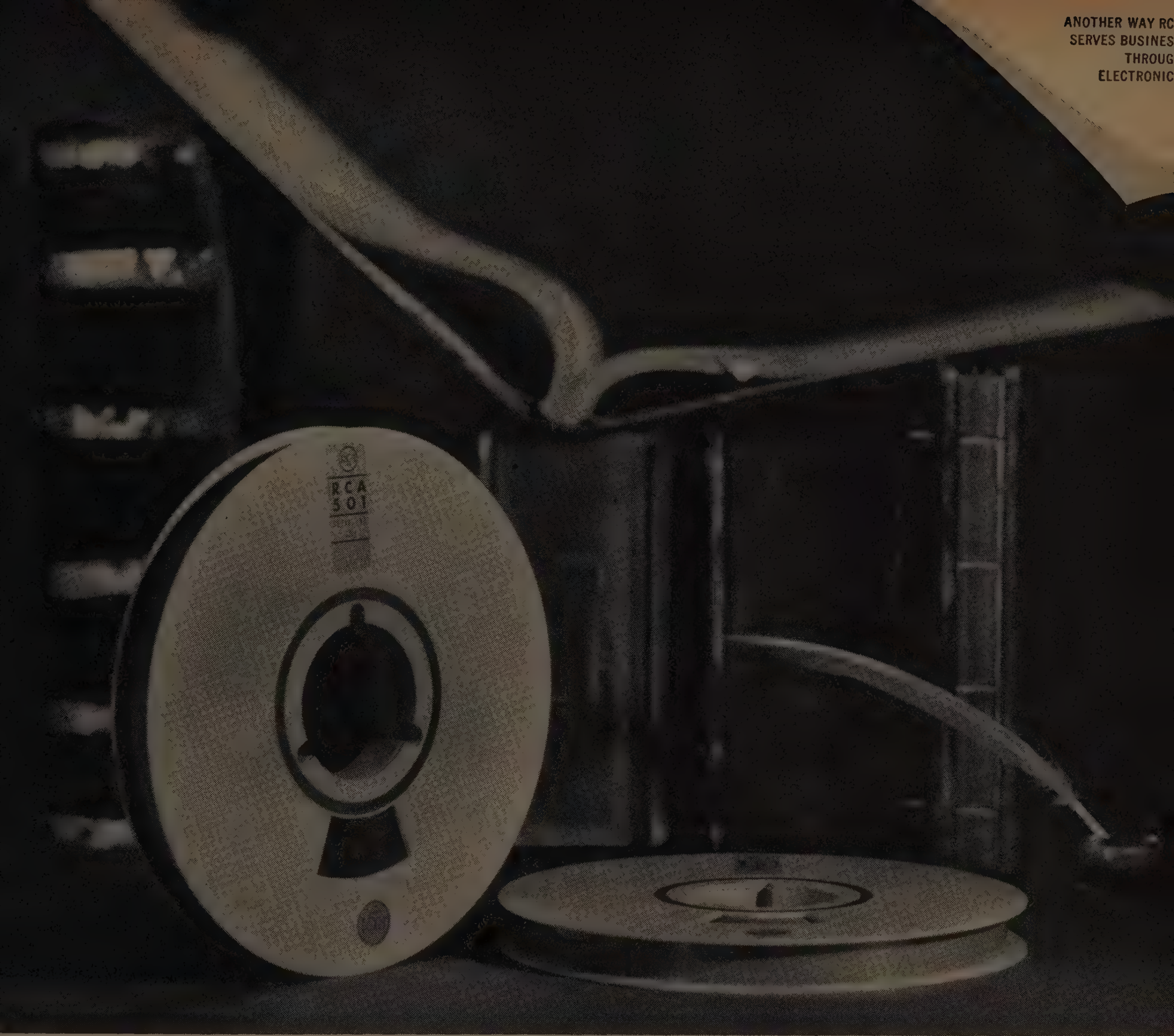
PHELPS, DIRECTOR OF SCUDDER FUND

Thomas W. Phelps, manager of economics and special studies department, Socony Mobil Oil Co., Inc., and a member of The New York Society of Security Analysts, has been elected to the board of directors of the Scudder Fund of Canada, Ltd. At one time, Mr. Phelps was a general partner of Francis I. du Pont & Co.

WELL, NYET!

Maybe it was summer fever, as opposed to spring fever. Perhaps it was the thought of the Soviet Premier's U. S. visit. Anyway, the Dow Jones news ticker made an interesting slip recently in referring to a "meeting of the New York *Soviet* of Security Analysts" at which Herman Failkov, president of the General Transistor Corp., spoke. Mr. Failkov spoke; but it was before the New York *Society* of Security Analysts.

—N. Y. Times



ANOTHER WAY RC
SERVES BUSINES
THROUG
ELECTRONIC

RCA Electronics creates the "501" to streamline the paper work of business—it reads, writes, figures and remembers on tape

Much of today's traffic jam in paper work is being eliminated by electronic data processing. But to build a system that would be practical and economical for even medium-sized organizations was a job for electronic specialists.

To solve the problem, RCA drew on its broad experience in building computers for military applications and combed its many laboratories for the latest electronic advances that could help. The result was the RCA "501" high-speed electronic data processing system—the most compact, flexible, and economical ever built. It is a pioneer system with all-transistor construction for business use.

The "501" cuts out paper work bottlenecks for many government agencies and businesses, from stock brokerage firms to public utilities, banks, insurance companies, and steel mills.

It "remembers" millions of letters, numbers, and symbols that are "read" onto its magnetic tapes by such things as punch cards and paper tapes. In a fraction of a second, it can do thousands of calculating, sorting, and comparing operations—and checks each step. Finally, it writes such things as bills, reports, payrolls in plain English at 72,000 characters per minute.

This economical and practical answer to an acute business problem is another way RCA Electronics is helping to simplify the growing complexity of business.

RCA RADIO CORPORATION OF AMERICA

TEXAS EASTERN

Transmission Corporation

HOUSTON, TEXAS – SHREVEPORT, LOUISIANA

This, too, is Texas Eastern

Ready for Winter with underground gas storage capacity of 105 billion cubic feet

When Winter's icy blasts sweep the land, demand for natural gas to heat homes and offices increases tremendously.

Texas Eastern is ready to deliver gas — in large volume — to satisfy such demands . . . thanks to one of the world's largest underground storage reservoirs for natural gas — Oakford Storage Pool in Southwestern Pennsylvania.

A natural reservoir, Oakford consists of depleted gas sand formations, ideal for holding gas and assuring high deliverability when it's time to remove gas for Winter use. During the Summer, when demand is low, Texas Eastern delivers gas into Oakford. When Winter arrives this gas is removed as needed to satisfy the highly seasonal demand.

Oakford is a prime example of gas industry cooperation in the public interest. Texas Eastern and New York State Natural Gas Corporation developed it jointly and now share equally the 105 billion cubic feet of storage capacity.

Combining long-distance pipelines with Oakford storage, Texas Eastern assures an ample, continuing, year-round supply of this clean, economical and adaptable fuel for homes and industries in the Midwestern, Appalachian and Eastern Seaboard states.

TEXAS EASTERN
TRANSMISSION CORPORATION

PRODUCERS • PROCESSORS • TRANSPORTERS
Natural Gas • Crude Oil • Petroleum Products

Ex-Wall Street Analyst: A Dutch Mayor

Falsifying treasury certificates — to the tune of millions of Dutch guilders—might normally be sufficient cause to put a man behind stone walls for many years. But in the case of Gysbert van Hall, an ex-Wall Street Security Analyst, he was honored by his Government and currently is serving a six-year term as Burgomaster of Amsterdam—by Royal appointment of Her Highness Queen Juliana.

Gysbert van Hall

Mr. van Hall, a native Hollander, spent more than three years in the United States with the financial investment firm of Kean, Taylor & Co. Years later, when the Nazis overran Holland, this former Security Analyst and his brother became key figures in the underground. And it was at this time that Mr. van Hall became adept at forging treasury certificates—with the full knowledge and approval of the Dutch Government-in-exile, then headquartered in Great Britain.

"Had the Nazis ever inspected certain carefully-wrapped official-looking packages at various Dutch banks—packages which supposedly contained millions of guilders as cash reserves of those banks—they'd have found, instead of guilders, a fine collection of old, old cigar boxes", Mr. van Hall recalled during an interview here with The Analysts Journal.

And while all this is amusing in retrospect, Mr. van Hall sadly recalls the tragic death of his brother whom the Nazis apprehended and summarily executed.

A number of Mr. van Hall's ancestors, for generations back, have been connected with the banking business. Moreover, other of his ancestors honorably served as Burgomasters of Amsterdam.

In explaining some of the financial ramifications of Dutch financial interests in the United States, the current Burgomaster stated that at one time from 20% to 30% of the stock in the Kansas City Southern Railroad, plus an equally large interest percentage of other U. S. railroads, were held by persons in the famous European country of tulips and wooden shoes.

As Burgomaster of Amsterdam, Mr. van Hall is also the chief executive officer; and as such, this is a full-time salaried position.

Asked if he was in New York in connection with the current Henry Hudson cross-ocean festivities, Mr. van Hall emitted a wry smile and quietly explained that his predecessors were among those who financed Henry Hudson's famed trip to the Americas; and to put it mildly, the historically-famous Hudson didn't live up to his part of the bargain, with the English profiting from his travels as well as getting the Dutch-owned ship.

Mr. van Hall makes frequent trips to New York in his capacity as administrative officer of Dutch trust companies which have large financial interests in this country. And indicative of a background (which eminently qualifies him for these duties) is the fact that before becoming Burgomaster of Amsterdam he was managing director of Labouchere and Co., which, carries on transactions in this country with Hayden, Stone & Co., Laidlaw & Co., Brown Bros., Harriman & Company, H. C. Wainwright & Co., Model, Roland & Stone, and approximately 10 other investment houses.

Now... Anaconda Aluminum Foil brings tempting dishes from the world's finest chefs right into your home

The rigid foil containers above have two things in common: All were made to hold baked or frozen food. All were made of Anaconda Aluminum Foil. In 1958 alone, Anaconda produced *hundreds of millions* of aluminum foil containers of all shapes and sizes.

Versatile aluminum foil brings so many advantages to the food field. It makes packaging far more convenient and attractive, besides being moisture-proof, tasteproof, odorproof and lightweight. The list of products packaged better with aluminum grows steadily longer. Take frozen foods, a prime user of foil: last year, frozen foods alone rang up total sales of close to *four billion dollars.* By 1965, economists tell us, Americans will be buying five to six times more! Truly, this foil-inspired packaging revolution is just getting started.

Joining vigorously in the development of America's aluminum future, Anaconda has blended all its aluminum facilities into one new subsidiary, Anaconda Aluminum Company. The result is an integrated organization embracing almost every phase of aluminum production—from alumina to pig and ingot through to the fabrication of commercial products such as foil, coiled and flat sheet, rod, bar, structurals, tube and extruded shapes.

In addition, substantial quantities of wire ingot are supplied to another Anaconda subsidiary, Anaconda Wire and Cable Company, for the production of a wide range of aluminum wire and cable electrical conductors.

Anaconda's growth in aluminum is a typical example of a development program that seeks to offer better products and services to both industry and consumer.

59175 A

ANACONDA ALUMINUM ®

General Offices: Louisville 1, Kentucky
Reduction Plant: Columbia Falls, Montana
Fabricating Plants: Terre Haute, Ind. • Louisville, Ky. • Fair Lawn, N. J. • San Gabriel, Calif.

The Gold Flow

by B. Barret Griffith

EVENTS IN OUR ECONOMIC and monetary affairs during recent years (their trends) seem to confirm the thought that the flow of gold reflects the direction of the tide in men's affairs. Whether or not the flow of gold radiates into stock and bond market prices, as well as into commodities, is not as important to determine as it is to recognize that the indications from the flow of gold cannot be ignored. The outflow of gold from our Treasury since 1949 either has caused, or reflects, profound changes in the trends of our affairs. There may be more changes in the making.

Published in *The Analysts Journal* of August, 1957 was an article entitled "Gold" in which it was concluded that before the 1960 elections an attractive U. S. Government bond would be offered to tempt foreigners from taking our gold, a free market for gold might be seen, and the Treasury would effectively raise the price of gold by being reluctant to sell all of this asset at the $35 price. These conclusions resulted from observing the outflow of gold from our Treasury since 1949 and the increasing claims against our reserves. The conclusions seem to be in the process of coming true. In

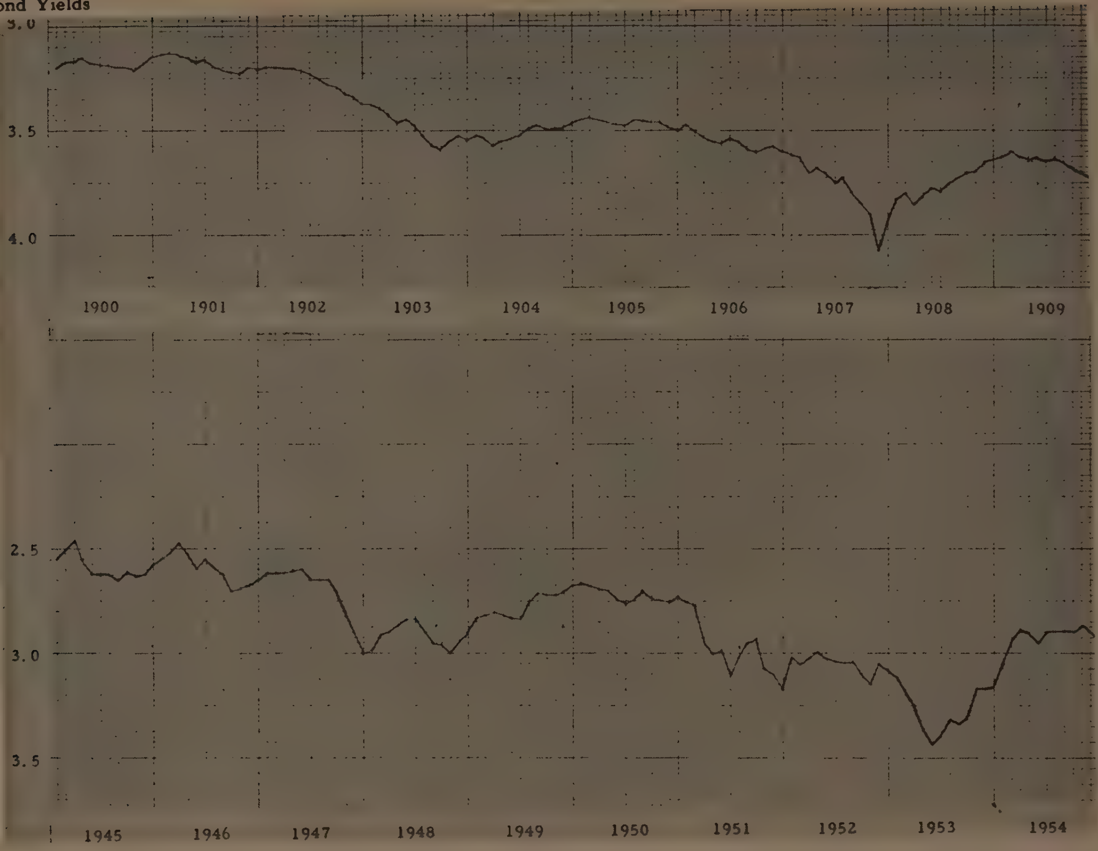
U. S. Gold Reserve vs. Requirements and Potential Claims
1922-1959 (In millions of dollars)

End of Year	U. S. Gold Reserve	A U. S. Required Gold Reserves	B Foreign Short-Term Dollar Balances	Total of A and B	% Claims To Gold
1922	$ 3,506	$ 1,686	$ 1,009	$ 2,695	76.9
1923	3,834	1,652	990	2,649	69.0
1924	4,090	1,599	1,237	2,836	69.3
1925	3,985	1,558	1,193	2,751	69.0
1926	4,083	1,564	1,639	3,203	78.4
1927	3,977	1,624	2,591	4,215	106.0
1928	3,746	1,621	2,673	4,102	109.5
1929	3,900	1,611	2,673	4,284	109.8
1930	4,225	1,562	2,336	3,897	92.2
1931	4,052	1,781	1,304	3,085	76.1
1932	4,405	1,967	746	2,713	61.6
1933	4,012	2,166	392	2,558	63.8
1934	8,259	2,729	670	3,399	41.2
1935	10,124	3,610	1,301	4,911	48.5
1936	11,422	4,101	1,623	5,724	50.1
1937	12,790	4,170	1,893	6,063	47.4
1938	14,591	5,099	2,158	7,257	49.7
1939	17,800	6,354	3,221	9,575	53.8
1940	22,042	7,897	3,938	11,835	53.7
1941	22,761	8,310	3,679	11,989	52.7
1942	22,739	9,977	4,205	14,202	62.5
1943	21,981	11,902	5,375	17,277	78.6
1944	20,631	14,350	5,820	21,170	102.6
1945	21,083	10,868	7,074	17,942	85.1
1946	21,706	10,731	6,481	18,429	84.9
1947	22,868	11,294	7,135	17,212	75.3
1948	24,399	11,894	7,756	19,650	80.5
1949	24,563	10,753	7,623	18,376	74.8
1950	22,820	11,055	9,222	20,227	88.6
1951	22,873	11,720	9,302	21,022	91.9
1952	23,252	12,055	10,731	22,786	98.0
1953	22,090	12,151	11,771	23,922	108.3
1954	21,793	11,812	12,923	24,735	113.5
1955	21,752	11,975	13,580	25,555	117.5
1956	22,058	12,120	16,428	28,548	129.4
1957	22,857	12,101	16,580	28,681	125.5
1958	20,582	12,036	17,637	29,673	144.2
*1959 Year End	18,000	12,000	18,000	30,000	167

*Estimated.

B. Barret Griffith is associated with John H. Lewis & Co. as resident partner at Colorado Springs. He is also author of the book "Investing Is Adventure".

Bond Yields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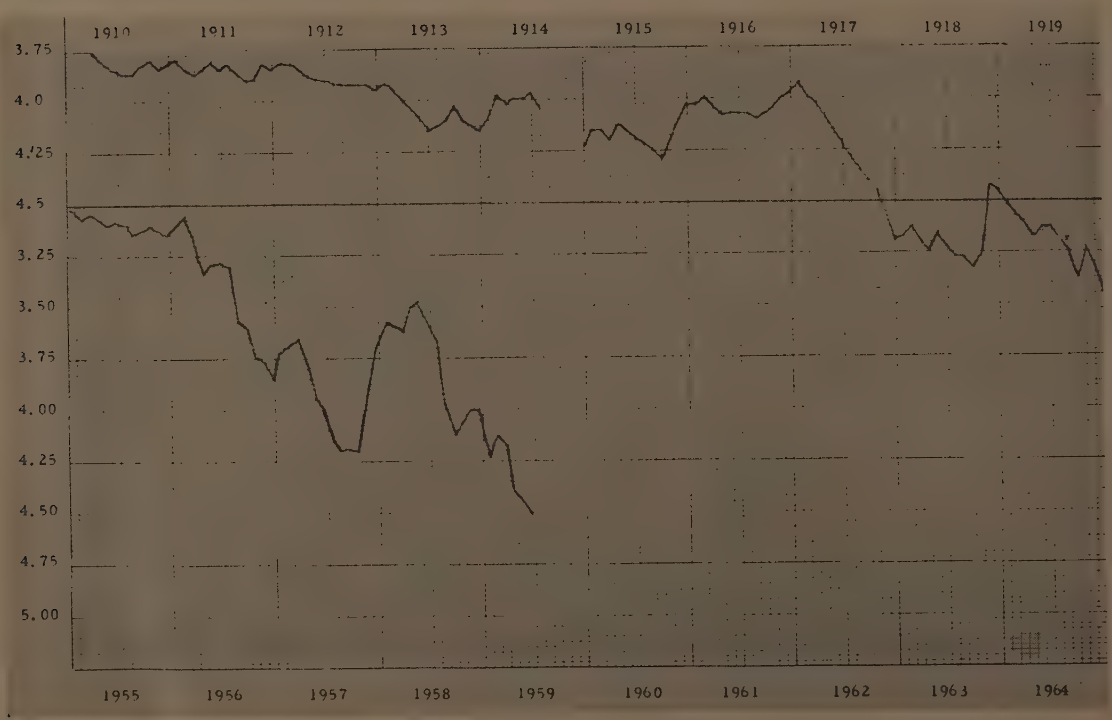
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GOLD GOES INTO ORBIT TOO

Although most people continue to think of gold as representative of money, it has—like diamonds—certain commercial uses. And probably the latest commercial use for this legendary golden element is helping keep missiles on course through outer space. The Electro Tec Corp. has developed its own methods of depositing ultra high-purity gold, 99.99-plus percent pure, into slipring assemblies for rocket controls.

November, 1958 there was published in *The Analysts Journal* an article entitled "Deflation—What Is It?". The article continued the study of gold flow. It noted commodity price and stock price trends during the last 100 years when gold reserve ratios advanced and declined. The article concluded that commodity price troughs apparently came about 15 years after war peaks and that common stocks in the stable earnings groups, and not dependent on increasing prices for profits, performed best for speculators and investors during past deflationary periods. Presently, the outflow of gold and trend of events may be indicating an important change in trend in the bond market. At least, it is timely to review the indications from the flow of gold on (1) the price of gold, (2) interest rates, (3) commodity prices and (4) stock prices.

The preceding table shows the flow of gold and our gold reserves versus requirements and claims on our gold. If foreign claims alone equal our reserves in the near future, it seems probable that our monetary trustees in Washington will raise the selling price of gold to a price where foreigners will not readily buy it. Trustees cannot sell assets below market price, or at bargain prices. The highest interest rates in years have not yet tempted foreigners from their hard dollars and gold into American bonds. However, because interest rates on bonds have increased more and faster than they did from 1900 to 1920, it seems possible that we may be close to the price lows in this cyclical decline in the bond market, even though short-term interest rates may jump dramatically over long-term money rates during the months ahead. The chart of bond prices during the last two cyclical declines is interesting because of the amazing repetition of history. The downtrend in many commodity prices since 1951 may be destined to continue until the price of gold and its flow are changed. In any event, we have passed the half-way mark in time toward the commodity price trough indicated by history. The stock market has not yet yielded to the effects, or indications from the outflow of gold, at least not obviously. The high-style attraction of commodity stocks has dimmed a bit and there seems to be a little increase in the popularity of the so-called steady stocks. However, the final answer may first be sketched in the flow of gold (its continued outflow, or reversal).

ANNUAL GOLD LOSS CITED

Roy L. Reierson, vice president and economist of Bankers Trust Company, states that the United States can expect to lose approximately 1 billion dollars a year in gold reserves as long as an adverse trade balance of the present size continues.

However, this doesn't mean that devaluation of the dollar is imminent, he added. And as for the claims of "certain foreign exchange letter writers" that the dollar would be devalued, increasing the price of gold by Jan. 1, 1960, Mr. Reierson specifically disputes these beliefs.

THE West Penn
Electric Company
(Incorporated)
Quarterly Dividend
on the
COMMON STOCK
40¢ PER SHARE
Payable September 30, 1959
Record September 11, 1959
Declared September 2, 1959

WEST PENN ELECTRIC SYSTEM
Monongahela Power Company
The Potomac Edison Company
West Penn Power Company

SEABOARD
FINANCE COMPANY
COMMON STOCK DIVIDEND
98th Consecutive Quarterly Payment
The Board of Directors of Seaboard Finance Company declared a regular quarterly dividend of 25 cents a share on Common Stock, payable October 10, 1959, to stockholders of record September 17, 1959.
PREFERRED STOCK DIVIDENDS
The Directors also declared regular quarterly dividends of \$1.18¾ on the \$4.75 Sinking Fund Preferred Stock, \$1.25 on the \$5.00 Sinking Fund Preferred Stock, \$1.25 on the \$5.00 Convertible Preferred Stock, Series A and B, all payable October 10, 1959, to stockholders of record September 17, 1959.
EDWARD L. JOHNSON
July 23, 1959 *Secretary*

OUTBOARD M MARINE
OUTBOARD MARINE CORPORATION
DIVIDEND NOTICE
A cash dividend of twenty cents (20c) per share on the Common Stock of the Company has been declared by the Board of Directors, payable November 25, 1959, to stockholders of record November 9, 1959.
R. F. WALLACE, *Secretary*
Oct. 23, 1959

New steels are
born at
Armco

HERE'S HOW TO "SET 'EM UP" FOR THE CENTURIES

The new House of Representatives Building in Washington is being built to last for centuries. Its foundation? 9000 steel pipe pilings from Armco Drainage & Metal Products, Inc., driven to a depth of 50 to 60 feet!

The site was once a canal—used to float barges loaded with white marble destined for the Capitol Building. Many of these barges overturned, spilling tons of marble blocks into the canal. When the Capitol was completed, the canal and its bed of marble were filled in.

Now, Armco Pipe Piling is being hammered through this hodgepodge with an 8-ton driver.

A tough job.

But not too tough for this steel pipe that bites its way through blocks of marble or stone far below the surface.

New steels and improved products made of steel are born at Armco to handle the really tough jobs. That's how they win new markets in all industries both at home and throughout the free world. Armco Steel Corporation, General Offices, Middletown, Ohio.

ARMCO ®

ARMCO STEEL

Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation

South African Gold

by William F. Boericke

SOUTH AFRICA PRODUCES nearly 60% of the gold production of the free world. Its proportion of the gold output has climbed quite steadily from less than 48% in 1950 and appears certain to increase still further with the expansion of the rich newer mines in the Far West Rand, in the Klerksdorf area, and especially in the Orange Free State.

Since 1955, South Africa has pushed its gold output up from 14.6 million ounces a year to approximately 17.7 million ounces, a 21% increase. During the same period the rest of the free world increased its gold output by about 350,000 ounces, or some 3%. Canada, next to South Africa as the second largest gold-producing country, showed a small increase and the United States a decrease. The Soviet Union production is variously estimated. Samuel Montagu & Co., a highly regarded international authority, places it as high as 17 million ounces in 1958, others, including the U. S. Bureau of Mines, take about half that figure. (See *Table* 2)

The expansion of the gold mining industry in South Africa resulted from scores of millions of pounds expended in exploration and development of new gold fields, prefaced by extensive preparatory drilling programs. This work resulted in the flotation of 19 new large gold mines, most of which are all now in varying stages of production, but by no means as yet up to their ultimate planned capacity. These new mines will take the place of the older mines in the Central Rand, some of which are approaching the end of their productive life, hastened by the dual impact of higher operating costs and gradual exhaustion of pay ore.

Fortunately, the prospect for higher production from the new gold fields removes all fear that the South African gold output will decline when operations end at the older mines. A recent official statement has put the ultimate gold yield of the Orange Free State (O.F.S.) mines alone at 350 million ounces, with a gross value at $35 per ounce for gold, at some $12 billion. For the new Klerksdorf area, the estimate is for an ultimate yield of 160 million ounces, worth $5.6 billion. These figures do not include the value of the uranium production, which for these two new gold fields alone exceeds $48 million annually.

The new mines are making good early engineering estimates of the extraordinary merit of the ore bodies. The normal mining risk was reduced by extensive drilling programs which permitted outlining the mining area with considerable certainty and allowing valid estimates for the mining life of the mines within definite limits, which runs as high as 40 years. Shafts were then located to afford the most economical means for working the claim area. To encourage the initial risk capital necessary for mine development, the South African government allows the new mines to amortize their entire capital outlays before tax liability begins, and any subsequent capital expenditure may be treated the same way. While tax liabilities come closer as profits rise, several years yet remain for tax free profits.

More Gold in New Mines

This is not to say that the new mines have not encountered difficulties that were absent in the Central Rand. The pumping problem has been extremely costly, compounded by the fact that the mine water cannot be discharged freely on the surface because of its saline content, but must be impounded in vast reservoirs for evaporation. The temperature gradient is much greater than in the mines of the old Rand, necessitating elaborate ventilation and refrigeration. But these handicaps have been overcome, although the disastrous flooding of the Merriespruit mine in O.F.S. is a sad reminder that this hazard always exists.

But all this is more than balanced by the highly gratifying gold content of the ore in the newer mines. The average grade of all the mines of South Africa is not high, about $9.20 per ton. This is a little less than the average grade of ore in the Ontario gold mines. But the striking difference in the grade of the O.F.S. mines is at once apparent. (See *Table* 3) In 1958 the average per ton was $14.40, over 50% higher than the average for all South African mines, and nearly three times as high as the older mines in the Central Rand.

Indeed, some of the older mines might have been forced to suspend before this if it were not for a better labor supply which permits operation at maximum capacity with consequent lowering of unit costs. This factor, however, cannot be counted on to continue, as it was abetted by the industrial slowdown in 1958 and a revival (which now seems evident) would again attract workers from the mines and create a labor shortage. Over the last decade working costs have increased about 3% a year, with capital costs even higher.

Another factor that has come to the rescue of some of the older mines has been the value of the uranium recovered as by-product from the gold tailings. Uranium recovery is by no means universal for all the mines on the Rand, but as seen in *Table* 1, it contributed about 70% additional to the working profits of the gold mines as a whole. Seventeen uranium plants have been erected for uranium recovery. Production in 1958 was about 6,000 tons of uranium concentrates, valued at

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William F. Boericke is mining and metal analyst and consultant for Hayden, Stone & Co., where he has been since 1946. Prior to that he was with the New Jersey Zinc Co. as a mining engineer for 11 years, and before that as chief evaluation engineer for the SEC and the Philippine Bureau of Mines.

Table 1

Progress of South African Gold Mining Industry

	1956	1957	1958
Ounces gold prod. (millions)	15.890	17.031	17.666
Grade of ore per ton	$8.00	$8.75	$9.20
Working revenue (millions)	$540.0	$582.0	$604.0
Working profit from gold (millions)	$135.0	$162.0	$172.0
Dividends paid (millions)	$ 79.5	$103.0	$122.0
Uranium profits (millions)	$ 69.0	$ 93.0	$105.0

Table 2

Gold Production of World, 1956-8. Ex Russia

	1956	% Total	1957	% Total	1958	% Total
South Africa (millions oz.)	15.890	57.0	17.031	58.0	17.666	58.5
Rest of World (millions oz.)	12.210	43.0	12.369	42.0	12.534	41.5
Total, ex Russia	28.100	100.0	29.400	100.0	30.200	100.0

Table 3

	1956	1957	1958
		(millions of ounces)	
Total from Orange Free State	3.032	3.769	4.329
Per cent of Total South Africa	19.0%	22.0%	24.6%
Av. oz. per ton milled	0.342	0.388	0.412
Av. value per ton	$12.00	$13.60	$14.40

some $150 million gross, or about $12 per pound—a price considerably more than is currently being paid for U. S. or Canadian concentrates. This output makes South Africa the third largest world uranium producer, surpassed only by U. S. and Canada. However, it is extremely unlikely this windfall for the gold mines will continue indefinitely. The present uranium contracts will not be renewed when they expire within the next few years. The output will probably have to be sold on the open market, at a price subject to considerable uncertainty.

An inspection of the current yields from South African gold stocks provides immediate evidence that the return from dividends far surpasses what can be obtained from investment in Canadian gold mining shares, and from the virtually only one straight gold producer in U. S. A compilation of dividend yields from 10 established Canadian gold mines with a consistent dividend record, shows a return of 4.7% on average present market price. If only the major producers were included—Campbell Red Lake, Dome, Kerr Addison, and Giant Yellowknife, with Homestake thrown in for good measure—the yield would be less than 4%.

'Kaffirs', Highly Valued Stocks

Speculation in the Kaffirs—as the gold stocks are commonly called in London—is the lifeblood of the Johannesburg Stock Exchange. For generations the British investor has leaned toward them with somewhat the same reverence as more sedate equities obtain in this country, and with good reasons. Unlike the usual mining investment, the established South African gold mine has provided an easily calculable yield that can be projected for the determinable life for the mine, with the market price reflecting amortization of the capital when the ore is exhausted. Profits have not been subject to variations in the price of the metal sold, and until recently, working costs remained within narrow limits. Technical direction of the mines has been of the highest order, and a wealth of operating and financial figures are released monthly for the investor's guidance.

There are some 80 gold mining stocks listed on the Johannesburg Exchange and about 40 of these are actively traded on the London Stock Exchange. The list includes 44 companies that have paid some dividend since the first of this year. Par value of the shares varies from 2/6 to £1, but for the great majority, par is 5/ to 10/ ($0.70 to $1.40). The number of shares listed varies within wide limits, from less than one million to 24 million in the case of Blyvoors. As might be expected, capitalization for the newer mines is much greater than for the older properties in the Central Rand, reflecting the vastly higher capital costs prevailing in the last decade for development and construction.

"Kaffir", as indicated in this article, is a term used on the London Stock Exchange in reference to South African gold stocks. In the late 19th century—when "Kaffirs" were not listed on the London Exchange—they were dealt with in the "Kaffir Circus" section of Throgmorton Street—the Wall Street of London. At that time South African natives, or Kaffirs, were held in about the same contempt as gold stocks from that region.

Table 4 presents current dividend yields and life of certain mines in the four principal producing areas. It is at once obvious that dividend yields vary almost directly with the years of productive life. Thus the high yields for the mines in the Central Rand represent a payment on capital as well as a true dividend. Even higher yields are obtainable from a few of the older mines that can see only a few years ahead of productive life. There is in addition the added uncertainty that these dividends may be in jeopardy through lessening profit margins resulting from higher operating costs and inability to compensate by mining a better grade of ore.

But after due allowance is made for these factors, it is undeniable that judicious selection by the investor permits a well secured return of 6 to 7½% on present market prices from South African gold mines that possess a productive life of 20 to 30 years or longer. Such returns are based on the present price of gold and give no consideration to the possibility of a higher gold price in future, which cannot be entirely ruled out. If such gold revaluation should occur, it would of course result in substantially higher profits, as well as insuring an even longer life for many of the properties by permitting the mining of thousands of tons of ore now submarginal.

Two Speculative Favorites

Yet in the opinion of some South African brokerage houses, a yield of 7 to 7½% for long-lived gold mines is not out of line. When the yield is less, as for Free State Geduld or Western Holdings, there are usually special reasons for the speculator's favor: notably, in these two instances, the probability of encountering the sensational gold values that were disclosed in some of the initial boreholes on these properties, the so-called "jackpot areas". Two of the Geduld holes gave the almost unbelievable assays of 23,000 and 12,000 inch-pennyweights, or in layman's language, gold values of $3,500-$7,000 per ton across mineable widths. This has placed these two companies in the front rank of

GOLD CERTIFICATE

Indicative of the world-wide interest in gold and the interchangeable gold certificates introduced this year by the Bank of Nova Scotia and Samuel Montague & Co., Ltd., of London, is the fact that the service will be extended to West Germany and the Union of South Africa.

The certificates represent ownership of gold and are negotiable. Owners of the certificates may arrange for gold delivery in Frankfurt through the Deutche Bank and for delivery in Johannesburg through the Union Acceptances, Ltd., in that city. Previously, this service was available only in London and Toronto.

Table 4
Data for Selected South African Gold Stocks

	Capitalization (shares issued)	Market 7/24/59	Price Range 1958-July, 1959		Total Dividend	Yield	Life of Mine
			High	Low	Last Financial Year		
Central Rand							
Crown	1,886,125	$ 3.90	$ 4.10	2.80	$0.49	12.5%	5
Dagga	7,000,000	3.90	4.80	3.20	0.67	17.0	12
East Geduld	9,000,000	3.20	3.60	2.80	0.51	16.0	11
ERPM	3,960,000	6.00	6.00	5.10	0.53	8.8	15
Grootvlei	11,438,000	2.50	2.65	1.80	0.32	13.0	18
Far Western							
Blyvoors	24,000,000	3.75	4.00	2.60	0.28	7.8	28
Doornfontein	9,828,000	4.35	4.90	3.00	0.42	9.7	20
West Drei.	7,051,000	19.40	19.60	12.70	1.15	6.0	26
Klerksdorf							
Buffels	11,000,000	7.10	7.40	2.80	0.42	6.0	38
Harties	9,000,000	8.20	9.80	7.80	0.98	11.8	36
Stillfontein	13,063,000	5.60	7.10	4.90	0.53	9.5	29
West Reefs	7,000,000	3.80	4.35	3.80	0.35	9.2	37
Orange Free State							
FS Geduld	10,000,000	27.00	27.00	10.70	0.92	3.5	47
Harmony	18,000,000	5.85	6.10	4.05	0.30	5.1	27
P. Brand	14,040,000	9.80	10.00	6.50	0.70	7.2	32
P. Steyn	14,000,000	4.35	4.75	3.50	0.35	8.1	32
St. Helena	9,625,000	11.70	11.70	7.80	0.37	3.7	26
Welkom	12,250,000	3.10	3.40	1.75	0.07	2.2	26
Western Holdings	7,496,000	24.60	24.60	11.90	1.05	4.3	35

speculative favorites on the London and Johannesburg Exchanges as underground workings approach these drill holes, and caused advances during the last year of over 100% in market quotations.

But undoubtedly there are other reasons for the reluctance of even seasoned British and Continental investors to bid up prices for South African gold shares to levels that would bring them more nearly in line with current investment returns elsewhere in the world. The political atmosphere in the Union is viewed with considerable reserve, to put it mildly. The Kaffir market is always sensitive to unfavorable news regarding racial disturbance in Africa and the apartheid policy of the present Government is generally deplored. Add to this bad press releases (no doubt often exaggerated) and an atmosphere is created that does not encourage indiscriminate investment. Only recently wide publicity was given to racial outbreaks in Durban, with a brutally frank picture of police subduing the native women. It was no mere coincidence that the Kaffir market broke severely in London following its publication.

Only sophisticated American investors have any intimate knowledge of South African securities. There are many reasons for this lack of interest. Market quotations, where available, are given in British currency and require conversion into dollars. Annual reports, while replete with detail to a much larger degree than is generally found for American and Canadian mining properties, follow the usual British accounting pattern which is quite different in form and in interpretation from American, although fully as accurate. The government tax formula, which on analysis appears generally fair, defies easy interpretation to the uninitiated. Delays in remitting dividends abroad and in registering share ownership cause irritation. And finally, inability to get the flow of information so easily available for domestic and Canadian shares from the usual statistical services discourages investor interest.

It appears likely that the picture will improve. Investors in the U. S. have recently shown increased interest. The mining record of the Union for the last 50 years promotes confidence, thanks to successful achievement in mining at astounding depths, overcoming serious temperature and water problems and solving the difficult geological problems in the new gold fields. An interesting start has been made by the successful flotation of the shares of the American South African Investment Co. Ltd., incorporated a year ago under the Companies Act of the Union of South Africa, organized primarily to provide a medium for investment in gold mining shares in the Union. The company has reported that about half of its funds are in gold mining companies in the Orange Free State, presently yielding a 5.7% return; about 19% in the Klerksdorf field, yielding 9% return; and about 15% in the Far West Rand, yielding over 8%. A smaller amount is devoted to the Central Rand and to minor industrial and coal investments, including, perhaps, gold bullion itself. Shares of the American South African Investment Co. Ltd., are listed on the New York Stock Exchange.

Newport News Shipbuilding and Dry Dock Company

Quarterly Statement of Billings, Estimated Unbilled Balance of Major Contracts and Number of Employees

	Three Fiscal Months Ended		Nine Fiscal Months Ended	
	September 28, 1959	September 22, 1958	September 28, 1959	September 22, 1958
Billings during the period from shipbuilding, ship conversions and repairs, hydraulic turbines and other work	$45,584,675	$36,978,015	$149,147,246	$120,088,182

	At September 28, 1959	At September 22, 1958
Estimated balance of major contracts unbilled at the close of the period . .	$291,378,254	$398,621,707
Equivalent number of employees, on a 40-hour basis, working during the last week of the period . . .	13,818	12,703

The Company reports income from long-term shipbuilding contracts on the percentage-of-completion basis; such income for any period will therefore vary from the billings on the contracts. Contract billings and estimated unbilled balances are subject to possible adjustments resulting from statutory and contractual provisions.

By Order of the Board of Directors
R. I. FLETCHER, *Financial Vice President*

October 28, 1959

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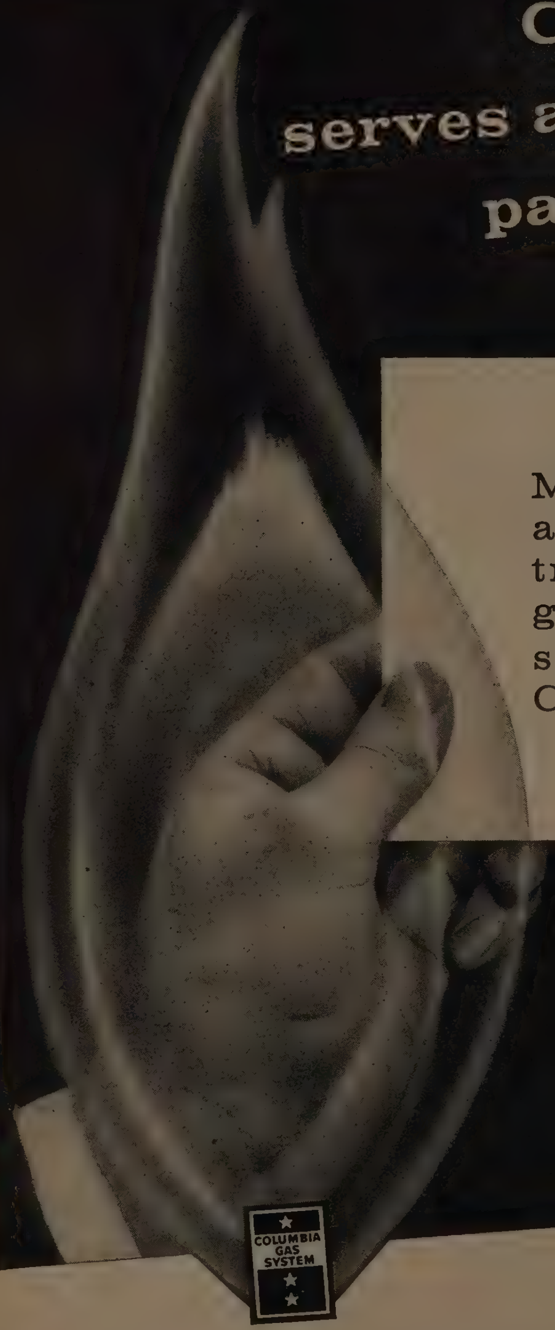

More than one-fifth of all the country's industrial users of natural gas are located in the seven states where Columbia serves.

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Textile Industry in Transition

by H. William Knodel

SINCE THE LATTER PART OF 1958, news from the textile industry has been encouraging. The going had been rough over the preceding four or five years, despite a period of strong growth for the American economy. Looking back, it now appears that this interval was actually a transition period during which the textile industry had to adjust itself to new conditions. Technology through the burgeoning use of the new non-cellulosic synthetic fibers, and the declining favorable balance of exports over imports stymied the growth potential engendered by population increase. There are indications that these developments have largely spent themselves and will be less of a factor over coming years.

Modest improvement in the textile situation was experienced during the second half of 1958, largely of a cyclical nature, responding to the upturn in general business. This recovery gained strength in the first half 1959, and was accompanied by substantial rise in profit margins from a subnormal level. Output of textile mill products during the second quarter 1959 on a seasonally adjusted basis attained a level equal to the peak quarter of the Korean War period.

A significant development is the greater degree of self-discipline at the mill level, spinners and weavers, to limit production to orders over and above a reasonable minimum mill inventory. This is a beginning stage of textile manufacture. If the policy proves successful and is continued, the whole industry, right down to textile retailers, should benefit. Cyclical fluctuations should be narrowed, and the chances are improved for better maintenance of prices and adequate profit margins.

Because of the unfavorable conditions in the textile picture in recent years, the earnings record of most textile companies has compared unfavorably with that of manufacturing industries in general. Investor attitude toward textile securities has been apathetic. However, if the indicated basic improvement in the industry is sustained, a gradual change in investor attitude should ensue.

Transition Adjustments

Mill consumption of fibers has not been keeping pace with population growth. For instance, comparing 1949 and 1958, both cyclical low years, gross fiber consumption in 1958 was only 10% higher than in 1949, yet population increased 17% over this nine-year span. The showing between 1949 and 1954 (also a cyclical low year) was relatively favorable, with gross fiber consumption in 1954 up 10% over 1949, as against 9% gain in population. The rough period was 1954 to 1958, with fiber consumption in 1958 down 0.5%, compared with a gain of 7% in population.

The developments to which the textile industry had to adjust itself included favorable as well as unfavorable, but the net effect was to shrink the total market for its products at the mill level, to intensify competition and to squeeze profit margins.

Favorable factors in the situation tending to strengthen the position of the industry were the following:

(1) Gradual increase in industry concentration into larger corporate groups.
(2) Scrapping of marginal manufacturing equipment, thereby lessening production capacity.
(3) Increase in demand arising from population growth.

Offsetting factors which tended to reduce over-all demand and aggravate competition were:

(1) Decrease in exports and increase in imports of manufactured textiles, resulting in a sharp drop in the favorable export balance.
(2) The impact of the new non-cellulosic synthetics possessing longer wear life.
(3) The trend toward sheerer apparel fabrics.

The textile industry is comprised of two major divisions, namely, (1) *Textile Mill Products* and (2) *Apparel and Related Products.*

Textile Mill Products includes chiefly all stages of manufacture beginning with the preparation and spinning of the fiber, to weaving and finishing of the fabrics ready for use or further manufacture by the apparel industry and others. This division does not encompass the production of natural fibers or the manufacture of synthetic or man-made fibers and filament yarns. The Apparel and Related Products division, frequently referred to as the "needle trades", uses a large part of the output of the Textile Mill Products division. The three broad markets by end use and the approximate share of the market are: (1) apparel 40%, (2) industrial uses 35%, and (3) household uses 25%.

The textile industry set-up includes a large number of plants, many of relatively small size. In 1954 (Census of Manufactures figures) the Textile Mill Products division had 8,070 plants, of which 5,828 employed fewer than 100 employees. The Apparel and Related Products division had 31,372 establishments, and only 2,589 employed a hundred or more people. This large

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number of small plants as well as the large number of independent owners constitutes one of the industry's weak points, encouraging cut-throat competition during slack periods. Nevertheless, there has been a trend toward forming larger corporate units, particularly in the textile mill products division.

Right after World War II, a considerable merger movement got under way not only to integrate from spinning to finishing but to diversify into products of all the major textile fibers. Another large scale merger movement occurred in 1954-55 and has continued since on a slower scale. The extent of the integration of spinning and weaving is indicated by the fact that over 82% of the yarn spun on the cotton system is for own or internal use and less than 18% for sale. The degree of integration into converting and finishing is considerably less. It is estimated that the 17 largest textile companies produce about 40% of gray goods (woven cloth). Over coming years mergers should continue and gradually lend additional strength and stability to the industry.

Excess Capacity Disappearing

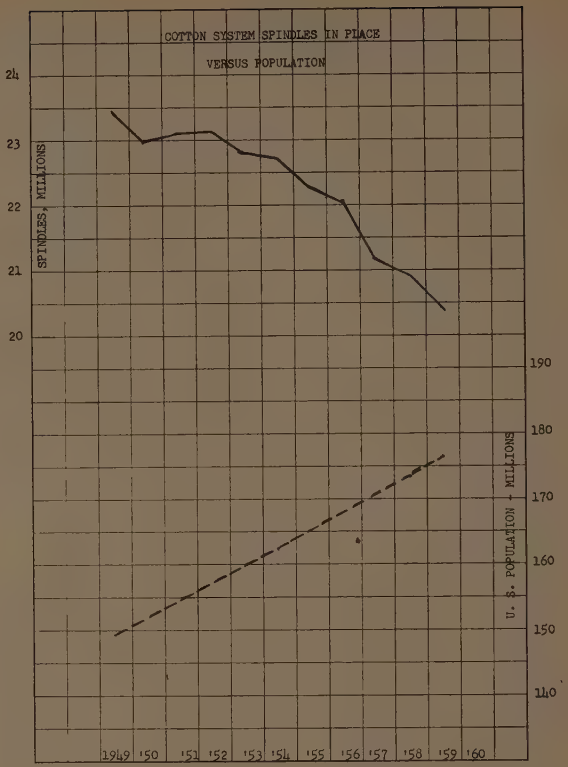
Excess capacity in relation to normal demand has been plaguing the textile industry. Nevertheless, during the past five years there has been steady attrition. Considerable marginal equipment has been scrapped and as yet there are no indications that this development has ended. The number of cotton system spindles in place has dropped at a fairly steady pace from about 25.0 million at the beginning of 1954 to 20.3 million by mid 1959. *See Chart I.* Woolen and worsted spinning spindles in place declined from 2,718,000 in June 1953 to 1,339,000 as of December 1958.

Teen-Agers High-Lighted

In the meantime, population growth in the United States is creating a basic rise in demand for textile products. Population has been increasing at the rate of 1.7% per annum. In addition, there is the effect of the large relative increase in teen-age households. It is estimated that such households should increase from 8.0 million in 1958 to 12.0 million in 1965, up 50%—which compares with a gain of only 15% in total households from 50.4 million to 57.7 million over the same period. Teen-age families are clothes-conscious. Households with children 10 to 19 years of age only, spend about 50% more on clothing than families with younger children. Consideration of this factor could increase basic apparel demand 2½% per annum.

Although the attrition of producing equipment, together with the rising basic demand for textiles in this country, are gradually bringing about a better balanced condition, nevertheless, it is important that the industry restrain itself from the periodic over-production of the past. Judging from recent years' experience, cotton system spinning activity at around 72% of 144-hour week on average would about satisfy normal demand, This means at most a 5-day week operation.

Chart I



There still exists a relatively large amount of old machinery. Over the coming years, the progressive companies will replace obsolete equipment as rapidly as finances permit with much more efficient machinery recently developed to cut production costs.

Fiber Consumption, Interfiber Competition

The advent of the synthetic or man-made fibers, and particularly the non-cellulosic synthetic fibers, has had a marked effect on the textile industry. The first synthetic fibers on the scene were the cellulosic fibers rayon (viscose) and acetate (cellulose acetate) in the early 1920's. The first non-cellulosic fiber, nylon, appeared in 1940. After World War II, research on the part of major chemical companies accelerated tremendously, and there are now available a large array of synthetic fibers in addition to the traditional natural fibers.

Essentially, the non-celluosic synthetic fibers can be classified into three major groups: polyamides (nylon type fibers); polyesters (Dacron type fibers); and acrylic (wool type, such as Orlon and Acrilan). Glass fiber use in textiles has been increasing; moderate amounts of Saran (vinyl derivative) and small amounts of other types also find their way into the textile business.

Table I shows textile mill consumption of fiber on a gross basis and on a "utility poundage" basis for 1949,

Table I

Gross versus Utility Poundage Fiber Consumption
(millions of pounds)

Gross Fiber Consumption	1949	1951	1953	1954	1955	1956	1957	1958
Cotton	3,838	4,847	4,521	4,125	4,384	4,332	4,040	3,941
Wool	511	495	504	393	423	450	379	346
Rayon and Acetate	994	1,277	1,223	1,155	1,419	1,201	1,177	1,108
Non-Cell. Syn. and Glass Fiber	93	195	280	329	432	484	562	578
Silk	6	6	5	6	7	8	6	5
Total	5,442	6,820	6,533	6,008	6,666	6,475	6,154	5,978
Utility Poundage Fiber Consumption								
Cotton	3,485	4,411	4,114	3,754	3,990	3,942	3,676	3,587
Wool	486	470	479	374	402	427	360	329
Rayon and Acetate	970	1,247	1,196	1,127	1,384	1,171	1,147	1,076
Non-Cell. Syn. and Glass Fiber	170	384	548	644	846	948	1,099	1,131
Silk	4	4	4	5	5	6	5	4
Total	5,115	6,516	6,341	5,904	6,627	6,494	6,287	6,127

1951 and for the years 1953 through 1958, inclusive. The "utility poundage" basis, a concept developed by Textile Organon, measures more accurately the effective fiber consumption than does the gross fiber figure. Three factors are measured which bear directly on the amount of fiber actually reaching the consumer in the form of end products and their utility value in those end uses. These factors are: (1) the processing losses incurred in the various fibers through the weaving stage; (2) the sheerness or fineness of the resulting fabrics that clothe the consumer; and (3) the wear life of the fabric in use. The meaning of the latter two factors is that a pound of fiber is going farther in yardage of fabric, and durability. Thus far, the increase in "utility" value has been concentrated in the higher priced non-cellulosic fibers.

Over the past few years, all of the fibers have been in adequate supply, so that textile companies could freely use each fiber where it is best suitable, either by itself, or in mixture with other fibers. Allowing for the cyclical factor there has been a downtrend in gross fiber consumption, but on a "utility poundage" basis, consumption has held up better. Thus, in 1958 total gross fiber used was down 0.5% from 1954, both years being periods of general business recession, but on a "utility poundage" basis, fiber consumption was up 3.8%. The change which has occurred since 1953 in the share of textile market by fibers on the basis of both gross fiber consumption and "utility poundage" consumption is shown in *Table II*.

The outstanding factor is the large increase in the consumption of the non-cellulosic synthetic fibers plus glass fiber, made at the expense of cotton and wool. Significant, however, is the experience in 1958 which indicates that cotton is showing resistance—its share of the total market actually increased on a gross basis and held its own on a "utility poundage" basis. One factor, contributing to this is the development of new finishes for cotton which give treated fiber some of the characteristics of the new non-cellulosic synthetics, such as wash and wear, and wrinkle resistance.

One possibility of a further large boost for non-cellulosic-synthetic fiber lies in the tire yarn market. Nylon has been making large strides at the expense of

Table II

Share of Textile Market by Fibers

	1953		1957		1958	
	Gross	Util. Pound	Gross	Util. Pound	Gross	Util. Pound
Cotton	69.2%	64.9%	64.8%	58.4%	66.0%	58.5%
Wool	7.7	7.6	6.1	5.8	5.8	5.4
Rayon and Acetate	18.7	18.8	18.9	18.2	18.5	17.6
Non-Cell. Syn. and Glass Fiber	4.3	8.6	10.1	17.5	9.6	18.4
Silk	0.1	0.1	0.1	0.1	0.1	0.1
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

rayon (which itself displaced cotton yarn). Nylon now preempts most of the market for heavy duty truck tires, and it is estimated to account for as much as 50% of replacement passenger car tires. If nylon tires should be made standard equipment for new passenger cars it is estimated that additional demand for around 60 million pounds of nylon yarn would be created, to displace an estimated 90 million pounds of high tenacity rayon.

Factors Offsetting Industry Growth

Total mill consumption of textile fibers in the post World War II period reached a peak level in 1950 and 1951 (Korean War) at 6.8 billion pounds gross. A lower peak was attained in 1955 at 6.7 billion pounds gross. Since then there has been a steady trend downward and in 1958, a period of general business recession, mill consumption fell to 6.0 billion pounds gross. This is only 10% above the total mill consumption of fiber in 1949, also a recession year, considerably less than the 17% increase in population during this 9-year period.

There are two main reasons for this relatively static condition of mill consumption versus population increase. First, there is the rapid increase in the use of the non-cellulosic fibers with their much longer wear-life. Second, a downward trend occurred in the favorable balance of exports of manufactured textiles over imports. On the basis of the "utility poundage" value for the non-cellulosic fibers and glass fiber, the effect of their increased use between 1949 and 1958 was to displace approximately 475 million pounds of fiber which would otherwise have been used.

Exports of finished textile products have been in a declining trend, while imports have been rising. Although there is still a favorable net export balance, it has been suffering a sharp shrinkage. The year 1947 saw the post World War II peak of the excess of exports over imports in semi-manufactured, and manufactured textile products, equivalent to around 800 million pounds. Thereafter, an irregular downtrend ensued. In 1949, the favorable export balance was estimated at around 510 million pounds. By 1954, it had dropped to 390 million pounds and by 1958 to only 210 million pounds.

Thus, between 1949 and 1958 there occurred a drop of around 300 million pounds in the excess of exports over imports. Adding this to the estimated 475 million pounds displacement effect of the non-cellulosic synthetics, there is a theoretical loss of around 775 million pounds. This is a measure of the additional amount of fibers which the textile industry would have processed if relative conditions had not changed since 1949. It is equivalent to 13% of actual gross mill consumption of fibers in 1958. For the textile industry it had the effect of offsetting to a large degree the growth factor due to population increase.

Textile Fiber Prices

Textile fibers vary considerably in price. Competition is an important factor in this, but cost of production is significant. Production capacity in practically every case is more than adequate to fill demand in this country over the next few years. In the case of cotton, the major fiber used, production has been severely restricted, primarily to support domestic price at a level which is considerably above the world market price.

In the synthetic fibers, capacity considerably exceeds current demand. Here, however, output can be much more closely controlled. Nevertheless, excess capacity is conducive to price cutting. Demand versus capacity for the major categories of synthetic fibers is shown in *Table III*.

Cotton 1" staple currently sells for around 32¾ cents a pound, or about 6 cents above world prices. Rayon staple (regenerated cellulose) to be competitive usually has to sell below this and is currently priced at 33 cents (denier 3.0) and acetate staple (cellulose acetate) at 36 cents. In comparing prices, allowance should be made for a 10% processing loss in cotton as against only about 4% in rayon staple. To some degree competition from the relatively large quantities of imported staple has an adverse effect on domestic rayon staple fiber prices. The non-cellulosic staple fibers sell considerably higher in price. Dacron $1.41 a pound (denier 3.0), Acrilan $1.18, Orlon $1.28, and Nylon $1.28. Wool tops sells for $1.57 a pound.

The price of yarns of the various fibers likewise shows a wide range. Combed cotton yarn 30/1's sells

Table III

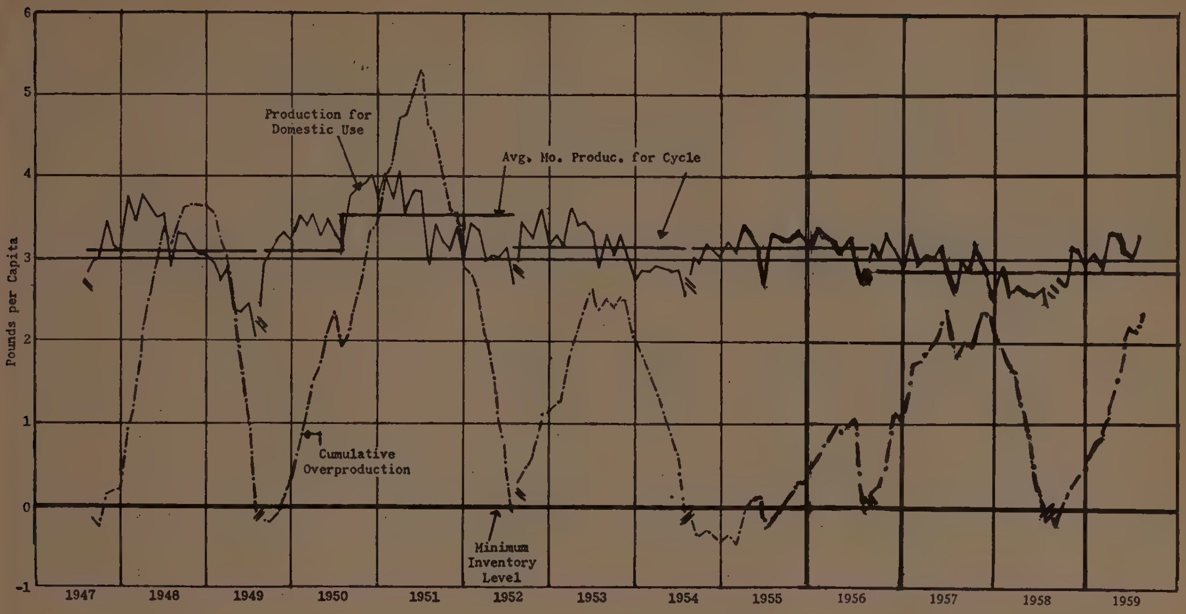
Demand versus Capacity—Synthetic Fibers

	Demand (lbs.) (a)	Capacity (lbs.)		
	1958	Nov. 1958	July 1959 (b)	Nov. 1960 (b)
	(Millions)	(Millions)	(Millions)	(Millions)
Rayon	843	1,021	1,027	1,028
Acetate	280	396	396	396
Non-Cellulosic	491	757	812	896
Glass Fiber	108	133	138	157

(a) Includes the following — Rayon, imports 83 million pounds, exports 10 million pounds; Acetate, estimated staple fiber consumption of 48 million pounds, and exports of 5 million pounds; non-cellulosic, 24 million pounds exports.

(b) Estimated.

Chart II—Textile Cycles



for 81 cents a pound, spun rayon 30/1's for 72 cents, and Bradford Worsted Yarn 2/32's for $2.64. Filament rayon and acetate yarn 150 denier are priced at 80 and 79 cents respectively. Nylon yarn 140 denier is $1.60 and Dacron $1.79 a pound. Nylon tire yarn sells for $1.06 a pound reduced from $1.20 in August 1959, Tyrex (super high tenacity rayon) for $0.66.

Future prices will vary with demand, particularly in relation to supply or production capacity. In cotton, current government policy is to ease production controls and so try to bring the domestic cotton price closer to the world prices. In rayon apparel yarn and staple fiber, demand after falling off stabilized and then improved. Rayon tire yarn, even the new "Tyrex," must battle it out with nylon for future markets. Acetate yarn, mostly used for apparel, has staged a moderate recovery in consumption since early 1958 and appears in better position than at any time over the past 3 years. In the non-cellulosic synthetic fibers, the increasing capacity is so large in relation to recent demand that some price cuts are a probability.

The Textile Cycle

An article on the textile cycle, prepared by the writer, was published in *The Analysts Journal,* third quarter 1951. Its chief purpose was to describe a method of enabling those interested in textiles and textile investments to determine policies of action because of the cyclical gyrations of the industry. Monthly figures on mill consumption of textile fibers are used, and by relating these to the average monthly consumption for the cycle, a cumulative figure is obtained indicating the course of inventory accumulation and decumulation.

Textile Cycle Phenomenon

The phenomenon of the textile cycle has been recognized for a considerable time. A recent study, made by Thomas Jeff Davis for the U. S. Department of Commerce, clearly demonstrates the existence of the textile cycles in the mill consumption of fiber, usually of two years duration. The cyclical course has been traced since 1918, and is shown to have been interrupted only by wars and by controls exercised by the National Recovery Administration 1934-35. As to the origin and cause of the cycle, the survey concludes that the cycle for clothing and household products begins at the retail level and is brought about by alternating waves of retailers' optimism and pessimism. The effect of the retailers' attitudes will be magnified when transmitted back to the garment cutting and mill levels. The volume of textiles for industrial uses depends upon the rates at which the consuming industries operate. The cyclical characteristics of these industries would in turn be reflected in textile mill orders and operations. Changes in relative amounts of exports and imports of textile manufacturers are also found to have an effect.

In substance, the chief cause of the textile production cycle appears to be the periodic fluctuation in the inventories of goods held at all stages of production and distribution. No actual figures are available that show just what normal would be of any textile in all stages of production from yarn on to unsold retail inventories. Nevertheless, at the low production point in the cycle these total inventories would be at a minimum level under conditions then existing.

As normal replenishment demand gradually asserts

Table IV

Textile Cycles, 1921-1958(a)

Period (b)	Monthly Duration	Average Monthly Per Capita Fiber Consumption, Pounds (c)			Population, Millions (e)
		Gross	Net Exports (d)	Net for U. S.	
Prewar					
8/21-7/24	36	2.55	0.07	2.48	111.3
8/24-7/26	24	2.56	0.08	2.48	115.8
8/26-7/28	24	2.73	0.11	2.62	119.0
8/28-8/30	25	2.52	0.11	2.41	121.8
9/30-7/32	23	1.99	0.08	1.91	124.0
8/32-6/35	35	2.24	0.05	2.19	126.1
7/35-5/38	35	2.61	0.03	2.58	128.6
Postwar					
9/45-7/47	23	3.71	0.28	3.43	142.1
8/47-7/49	24	3.40	0.31	3.09	146.6
8/49-7/52*	36	3.61	0.20	3.41	154.4
8/52-7/54	24	3.33	0.18	3.15	159.7
8/54-7/56	24	3.15	0.15	3.00	165.2
8/56-7/58	24	2.84	0.10	2.74	171.2

(a) Excludes World War II period.
(b) Low point to low point.
(c) Includes cotton, wool, silk, and synthetic fibers.
(d) Excess of exports over imports of semi-manufactured and manufactured textiles.
(e) Average for period.
(*) Includes Korean War.

Table V

Profit Rates*

(after taxes)

	On Sales			On Stockholders Equity		
	All Manufacturing Industries	Textile Mill Products	Apparel & Related Products	All Manufacturing Industries	Textile Mill Products	Apparel & Related Products
1947	6.7%	8.2%	4.6%	15.1%	18.4%	18.6%
1948	7.0	8.3	3.1	15.5	18.3	12.1
1949	5.8	4.1	2.1	11.4	7.5	7.4
1950	7.1	5.8	2.8	15.0	12.3	9.8
1951	4.8	3.4	0.6	11.8	7.9	2.8
1952	4.3	1.9	1.0	10.2	4.2	4.8
1953	4.3	2.2	1.2	10.4	4.6	5.3
1954	4.5	1.0	1.1	9.8	1.8	4.6
1955	5.4	2.6	1.3	12.3	5.7	6.2
1956	5.3	2.6	1.6	12.0	5.7	8.2
1957	4.8	1.9	1.3	10.7	4.2	6.2
1958	4.2	1.7	1.0	8.4	3.7	5.0
1958						
1st Half	3.6	0.7	0.5	7.2	1.6	2.4
2nd Half	4.7	2.4	1.4	9.8	5.5	7.5
1959						
1st Quarter	4.7	2.5	1.6	10.0	5.9	8.5

*Sources: U. S. Federal Trade Commission and Securities and Exchange Commission.

itself, textile output begins to rise, usually under the stimulus of a price increase in yarns, grey goods, finished goods, and fabricated goods. Production increases and is maintained at a higher level until the entire range of textile inventory mentioned reaches a point that induces caution. Then individual fabricators and distributors decide in close succession that goods in stock are plentiful. New commitments are then sharply reduced and textile production falls. When inventories have again dropped back to a minimum level, more aggressive buying is resumed and the cycle is repeated. Fundamentally, *buyer psychology* causes the cyclical swings in textiles.

The main characteristics of the textile cycles since 1921 are indicated in *Table IV*. Also the cycles, both production and inventory, since 1947 are graphically shown on *Chart II*. Seven distinct cycles were completed between the years 1921 and 1938. In the post World War II period, six cycles have been completed and we are now in the seventh. The significant figure from the standpoint of textile mill operators is gross mill consumption of fibers, since it includes the total of fibers processed both for the domestic and the export markets. Here a decline of 14.7% occurred on the basis of per capita figures during the three cycles since 1952 (but population increased 6.7%). The decline is attributable to the drop in net exports. The decline of 13.0% in net consumption per capita (for domestic use only) reflects the higher "utility" value of the fiber mix.

Profit After Taxes

Profit rates on both sales and on stockholders' equity in the immediate post-war years 1947 and 1948 were abnormally high in the textile industry (*See Table V*). Business was strongly stimulated by the large pent-up domestic demand created by accumulated consumer shortages during the war period, together with a large export demand. This was true not only for textiles but for many other types of consumers goods.

The average profit (after taxes) for the two years 1947-48 on stockholders' equity for all manufacturing industries was 15.3%. The rate of return for textile mill product companies exceeded this with 18.3% and apparel manufacturers equalled it with 15.3%. The year 1949, one of correction, witnessed a larger drop in the profit rates in the textile mill products and apparel industries than in all manufacturing. This was followed by a sharp resurgence in 1950 with the outbreak of the Korean War. Thereafter, profit rates again fell, tending to level off subsequently, but with sharp drops in periods of cyclical correction such as 1954 and late 1957 early 1958.

The profit rate been considerably lower for textile companies since 1949, as compared with all manufacturing average. At the low reached in the first half 1958, the profit rate on stockholders' equity was 7.3% for all manufacturing which compares with 1.8% for textile mill products and 2.4% for apparel manufacturers. The previous high for all manufacturing was 12.3% in 1955, Textile Mill Products 5.7% in 1956 and apparel 8.2% in 1956.

The rate of return on stockholders' equity since 1952 has been low in the textile industry, more so for the textile mill products division than for the apparel and related products division. Should the industry follow through with the basic improvement which appears to have gotten underway, the profit rate should rise and tend to narrow the gap existing in relation to the profit rate of all manufacturing.

LONGER TERM OUTLOOK

The transition period of recent years appears to have been taken in stride, and in its wake has left the textile industry in considerably improved basic position. Over the longer term, population factors point to a growth rate of 2½% per annum for the 1960's. Seasonal and cyclical patterns will no doubt continue, although in the case of the latter, the policy of controlling output through industry wide understanding at the mill level will tend to narrow such fluctuations. During the present cycle, which began in the summer of 1958, it is estimated that during the first 9 months of 1959 a build-up of inventory has taken place in the textile set-up, which if it persists should call for a modest correction perhaps late in 1959 or during the first half 1960.

Production efficiency has increased appreciably over the past two years and with new and improved textile machinery now available further sizeable reductions in cost per unit output can be achieved. This should aid the industry in meeting competition from abroad. However, the industry feels reasonably assured that the government will restrict imports one way or another and not "sell it down the river." Among fiber producers, competition should remain keen. Government policy tending toward lower cotton price to meet world market level may affect rayon and acetate staple prices. In the non-cellulosic synthetic fiber field, the current excess producing capacity could well induce moderate price cuts, although markets will continue to expand.

Battle of the Fibers

So far as weavers are concerned, the battle of the fibers has little effect since they can readily shift to suit consumer preference. Production of non-woven fabrics, while still relatively very small, has been going up. Current use of fiber for non-woven products is estimated at around 80 million pounds with growth to 200 million pounds in 1961 estimated.

Continuation of mergers and acquisitions, particularly at the weaver level, should tend to gradually further strengthen the industry as production and marketing are concentrated into fewer and stronger hands. In recent years it has been cheaper to expand through merger than through construction of new capacity.

NEW HIGHS HIT BY WINN-DIXIE!

OFFICIAL U. S. NAVY PHOTO

AT A GLANCE . . .

SALES

Sales and earnings for the fiscal year ended June 27, 1959 were again out in front of any previous year in the history of the Company. Sales for the fiscal year were $666,370,231, an increase of 13.22% over the previous year and Winn-Dixie continues to rank seventh in annual sales volume in the retail food chain industry.

EARNINGS

Net earnings after Federal income taxes amounted to $14,011,512, or $2.22 per common share as compared with $12,269,695, or $1.95 last year, computation for both years being based upon the number of shares outstanding at the end of each year.

EMPLOYEE BENEFITS

Employee benefits have been continued, including employee stock purchase plans, provisions for profit sharing and retirement, comprehensive group insurance and sick benefit programs and scholarship funds. Employees have purchased 297,240 shares since the inception of the stock purchase plan in 1952 and more than 25% of regular full time employees were stockholders in the Company at the end of the year.

	FISCAL YEAR	
	JUNE 27, 1959	JUNE 28, 1958
UP! SALES:		
Sales	$666,370,231	$588,568,919
Percentage Increase	13.22	14.61
UP! PROFITS:		
Net Profits After Income Tax	$ 14,011,512	$ 12,269,695
Per Share	$2.22	$1.95
Percentage to Sales	2.10	2.08
UP! STORES:		
Retail Stores	495	473
Wholesale Units	9	9
UP! DIVIDENDS:		
Dividends paid	$ 6,783,701	$ 5,995,802
Per Share	$1.08	.96
(Present annual rate $1.20)		

COPY OF COMPLETE ANNUAL REPORT AVAILABLE ON REQUEST

WINN-DIXIE STORES, INC.
AND SUBSIDIARIES Operators of Retail Food Stores in Florida, Georgia, Alabama, Mississippi, Louisiana, South Carolina, North Carolina, Kentucky, Tennessee, Virginia and Indiana.

GENERAL OFFICES: JACKSONVILLE, FLORIDA

THE FASTEST GROWING
FOOD CHAIN IN THE SOUTH

COMMODITIES:

HIGH FINANCE IN COFFEE

by Bernard Colodney

(Editor's note: This is the third in an extended series on commodities. The first, about Cocoa, was published in May, and the second, about Sugar, was published in August).

LET'S GET ONE THING STRAIGHT right at the beginning of this article; coffee *does* keep you awake at night! But it's not the coffee you drink that keeps you up. It's the coffee you own, the position you have in it—*that's* what keeps you awake at night.

Coffee is one of the three major-non-alcoholic beverages which civilization has produced through the ages, the others being tea and cocoa; and among the people of the Western Hemisphere, coffee has become the most indispensable. It is fitting that coffee should have attained such popularity throughout Western nations, because coffee is indeed a democratic drink. It is the ambrosia of prince and peasant. It has as much appeal to fashionable society as to those who do the world's work. It is as much at home in a Park Avenue penthouse as in a logging camp in the wilderness. Coffee-drinking has become the daily habit of millions, not only at mealtime, but also as a pick-me-up between meals.

The term "coffee-break" has become an accepted part of the American lexicon. I have never heard of a "tea-break" or a "cocoa-break" and can only imagine what value certain American corporations might place on the national acceptance of a twice-daily period known as the "Coca-Cola break" or the "Pepsi-Cola break" or the "Hoffman's Black Raspberry with the Lively Bubbles break."

Coffee consumers say that the drink is stimulating, gives a feeling of satisfaction and tastes good. Many persons are unable to get started on their day's activities until they have downed their morning coffee.

Those in the coffee trade, however, are unable to share this enthusiasm. Their morning fare probably includes an ulcer pill and a headache remedy. Coffee has always been a boom-or-bust commodity, despite monumental efforts to bring stability to the trade. Indeed, the New York Coffee Exchange—later expanded and renamed the New York Coffee and Sugar Exchange, Inc., its present designation—was born out of chaos and disaster, and is the third oldest commodity futures exchange in the United States, having opened in 1882.

ROMANTIC ORIGIN OF COFFEE

Legend has it that over a thousand years ago an Arabian goatherd noticed that his charges were unusually frisky. He observed them carefully for a few days, and discovered that whenever they ate the bright red berries of a bush that grew wild in the area, the goats would dance and frolic. He tried some himself, liked their taste, and spread the news around.

The Arabs, being Mohammedan, and thus proscribed from drinking alcoholic beverages, quickly took to the new discovery, and the cultivation of the coffee bush increased. Until about the 16th century, the entire world supply of coffee came from Yemen, in southern Arabia. Despite efforts to keep this lucrative industry a national monopoly, its cultivation spread throughout the tropics. This was the era of great Mohammedan expansion, and as their armies overran the area from Spain to India, coffee was among their supplies. Later, the Ottoman emperors conquered the Mohammedans, and coffee became the favorite Turkish drink. In the 17th century, a French infantry captain smuggled a coffee plant to his station on Martinique, nursing it through the long sea voyage and sharing his water ration with the plant. The plant flourished so well in its new home that in a few years seedlings were sent throughout the Caribbean area, and in 1727 its cultivation spread to Brazil. Shortly, the production of coffee was general throughout tropical America.

By this time, preparation of coffee as a beverage had improved. Dried, roasted coffee was pounded to dust with mortar and pestle, and steeped in boiling water. When the liquid was half boiled away, it was strained through silk and decanted gently into earthen pots, leaving behind the accumulated sediment. Portions were then rewarmed, and served flavored with cinnamon sticks or cloves in thin china cups.

Europe adopted coffee. In the early 18th century there were over 2,000 coffee houses in London alone. That city then consumed more coffee than any other city in the world, and those coffee houses became known as "penny universities" because a penny was the price of admission, and one could pick up a liberal education listening to Boswell, Goldsmith, Samuel Johnson, Pope, Dryden, Swift, Addison, Steele, and Pepys.

Edward Lloyd started his coffee house, which at-

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tracted a clientele of merchants and sailors. Lloyd, as a convenience for his patrons, kept an active record of ship and cargo movements, which naturally included those most likely to require insurance, from which has evolved the *Lloyd's of London,* famous today in insurance circles. The word "tip" originated in London coffee houses, where guests dropped coins in boxes To Insure Promptness.

The same situation existed in Paris. Coffee houses catered to customers like Marat, Robespierre and Danton. Napoleon was a coffee drinker. Voltaire was said to have been a very heavy coffee consumer, downing as many as 40 cups a day. Benjamin Franklin frequented Parisian coffee houses, espousing his democratic philosophy, which had so great an effect on leaders of the French Revolution.

The rapid spread of coffee houses, or "cafes" as they were known in Paris, made the business highly competitive, and the proprietors resorted to other attractions to amuse their patrons. The can-can, which, if it requires explanation, is a dance revealing the starched bloomers of high-kicking young ladies, was first introduced as an extra attraction in a French cafe. Eventually, intense competition compelled cafes to add food to their offerings, and many of the most famous French restaurants in existence today can trace their origin back to cafe days. The Tour d'Argent, most famous of all, goes back to circa 1600.

In the Balkans, Vienna was the site of the first coffee house, a statue of its founder still stands, and across the Danube, Johann Sebastian Bach composed his "Coffee Cantata."

Only in Germany, where beer was solidly entrenched as the national drink, was resistance shown to coffee, and the coffee house was never able to match the popularity of the beer parlor. Indeed, the "Kaffeeklatsch," a word universally accepted to describe a social gathering, was coined by beer-drinking Germans to ridicule coffee as a woman's drink.

The Golden Age of coffee in Europe was of rather short duration. Although coffee had assumed respectability in London, become devilish in Paris and fashionable in Vienna, politicians soon saw coffee as an excellent vehicle for taxation, and kept piling on an incredible pyramid of excessive taxes, burdensome tariffs, and prohibitive duties. As a result, the great English coffee houses became private clubs, the French houses became restaurants, and the consumption of coffee fell off sharply. Only in Vienna did the coffee house continue pure.

The British switched to tea as the national beverage. In France, Italy and Spain, light wines assumed popularity. The intense competition for the remaining coffee trade between English and Dutch traders forced them to seek new markets, and the growth of colonial America offered the best opportunity for expansion. By the late 1600's, a brisk trade was taking place in the New York market, in stiff competition with tea and cocoa.

Coffee Becomes the American Drink

Knowledge of coffee came to the New World with its first settlers. Equipment for its preparation was included among other treasured possessions on the Mayflower. Shipmasters traded coffee beans with the colonists in New Amsterdam. However, the supply available to North American colonies was small and high-priced, compared to native beverages like sassafras root and birch bark, from which palatable drinks could be brewed. Tea from India was then the standard imported beverage, because the coffee being grown in the West Indies and South America went to supply European demands. When French and Dutch smugglers began to run the English blockade, coffee supplies to the colonists of North America increased, but still brought high prices. William Penn wrote that in 1683 he paid the equivalent of almost $5 for a pound of green coffee in New York City.

Eventually, coffee houses opened in Boston, New York, Philadelphia and Baltimore, but were pathetically abysmal compared with their European predecessors. Most of them were really taverns, selling beer and ale in addition to coffee. The brilliant conversation of the cultured intelligentsia that frequented the European coffee houses was missing in their North American counter-parts. The colonists were men of work and piety, and they felt that their time should be spent in the fields rather than in the coffee houses. Actually, there was not quite the same need for coffee houses in North America that there had been in Europe. Women played an active role in the social life of the colonies, and entertaining was done in the home. Being the most readily available, tea was the most popular beverage.

Nevertheless, coffee houses were soon fulfilling a public service. In New York, the Tontine was a notable coffee house, situated on the northwest corner of Wall and Water Streets. It was a shareholder operation, being owned by 157 New York businessmen who could get room and board there for 10 shillings a day. Balls and banquets were held in its public rooms. Its largest public room served as the *New York Stock Exchange.*

In Boston, John Adams, James Otis and Paul Revere met in coffee houses to conspire the separation from England. High taxes imposed by the Crown on the importation of tea resulted in a boycott against its use, and punitive measures against the boycott were undertaken in retaliation. On the night of Dec. 16, 1773, Samuel Adams and others, masquerading as Indians, boarded the tea-laden ships of the East India Company and dumped overboard 342 chests of tea. This gesture came to symbolize the separation of the colonies which were to become the United States of America. A summary rejection of everything English followed. If you drank tea, you were a Tory, and thus drinking tea became practically treasonable.

Coffee soon became the American national drink. French and Dutch traders began supplying the demand. As hordes of coffee-loving European immigrants came to the New World, consumption here increased. Coffee became a necessity on clipper ships sailing around the

Horn in search of West Coast gold. It was a must in the saddle bags of scouts guiding the wagon train caravans West. It was sought after by Indians, who valued it as highly as rifles and tools. The expeditionary forces which fought the Mexican War were supplied with coffee. Soldiers in the Civil War received coffee rations.

Coffee had finally arrived as a commodity of considerable commercial importance, and today its value is second only to petroleum in world trade.

COFFEE CULTIVATION

The coffee tree belongs to a botanical family of plant noted for its action on the nervous system, other members being the trees from which we get quinine, and the emetic, ipecac. The coffee tree is really a bush, or shrub, varying in height from 8 to 45 feet at maturity, depending on the country where it is grown and the method of pruning. Usually, pruning is rather severe, to make it easier to pick the fruit.

Three principal species of trees are cultivated for the industry: coffea arabica, coffea liberica and coffea robusta. Arabica coffee, the only variety under cultivation until the middle of the 19th century, accounts for about 80% of the coffees consumed in the world. The other two varieties were developed since then because of their resistance to pests and disease.

The arabica tree, as its name suggests, is indigenous to Arabia, but it also grows well in Java, India, Abyssinia, Sumatra, equatorial Africa, the Pacific Islands, the West Indies and Latin America.

Liberica and Robusta species are found mainly in Africa. They reach maturity in two or three years, compared to five for arabica, but yield only about three pounds of cherries per year, as against about five for arabica. The fruit of liberica does not fall from the tree when ripe, as does that of the arabica variety. Robusta is the hardiest and most resistant to disease, but these advantages are offset by the fact that they tend to produce a lower quality of coffee, which is more popular in Europe than in this country.

Coffee grows everywhere in the Torrid Zone, but thrives best where there is a balance of sunshine and shade, good soil and ample rainfall. High altitudes are beneficial, with 2,000 to 6,000 feet above sea level being ideal for its growth. Because coffee flourishes in earth rich in potash, some of the best plantations are situated on the slopes of extinct volcanoes. Frosts are fatal to coffee trees, as is drought. Rainfall must be evenly distributed throughout the year.

As the coffee tree does not stand intense sunlight too well, many plantations are protected by taller shade trees. Hillsides are favorite sites, since they receive direct exposure to the sun for only part of each day.

Coffee trees are usually started in a nursery, and when the seedling are about a foot high they are transplanted and set out in orchards, just like apple trees. They are planted about 12 feet apart, but soon become so bushy that they appear to be much closer together. On the average, nearly 2,000 hand-picked cherries, weighing about five pounds, yield one pound of clean, green coffee. Since green coffee loses weight in the roasting process, one coffee tree thus yields less than one pound of roasted coffee a year.

The lance-shaped leaves of the coffee plant are a glossy dark green on the upper surface, and lighter green on the lower. At flowering time, clusters of small, fragrant white blossoms appear in such profusion that a coffee plantation in full bloom looks as though a light snowfall had covered it. In a day or so, the flowers disappear, and are eventually replaced by the fruit of the tree, a green "cherry," which later turns bright red, and finally a reddish black. Inside the cherry, when ripe, is found a pair of green beans—the seed of the cherry—encased in several outer coverings, which must be removed before roasting. There is a pulpy substance like that of a cherry just under the outer skin, a thin parchment-like covering surrounding the two beans, and finally a silvery membrane around each bean, which is believed to seal in the volatile essence that gives coffee its unique flavor. Preparation for market involves stripping off these outer layers of the cherry to liberate the seeds within.

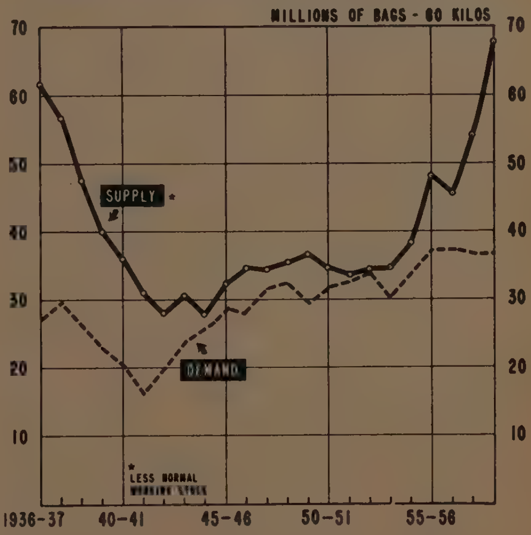
In some climates close to the Equator the trees blossom several times a year, and often there are blossoms, green berries, and ripe red berries on the tree at the same time. In sub-tropical climates, however, there is only one blossoming season.

PREPARATION FOR MARKET

There are two basic methods used to prepare coffee for market. One is the dry, or natural, method, most commonly used in Brazil. The other is the wet method, which is more desirable, and is gradually gaining favor. Harvest season is a busy time on the plantation, because the fruit is picked by hand, and unless gathered promptly the cherries soon become overripe and shrivel.

The dry method involves stripping the tree of ripe

WORLD COFFEE SUPPLY AND DEMAND



cherries, over-ripe ones and unripe ones, all at the same time. The fruit is spread thinly on a concrete patio and allowed to dry naturally in the sun, being raked and turned several times each day, so that evaporation may be uniform. This process takes about three weeks. At night, the coffee is heaped together and covered to protect it from dew. When thoroughly dry, the coffee is transferred to milling machines for removal of the dried husk, parchment and inner membrane. What remains is the green coffee beans of commerce.

In the "wet" method, used by countries producing the "mild" coffee so highly prized by gourmets, only fully ripened, red cherries are picked. The pickers must return to each tree several times, as the fruit matures at different times. A skilled picker, carrying cane baskets slung over his shoulders, averages 100 pounds of cherries a day. The filled baskets are emptied into large, deep tanks filled with fresh water. Unripened fruit, sticks and leaves float to the top, and are skimmed off. Following this washing, the remaining cherries are carried through a water-filled trough into a depulping machine, and then on to large fermentation tanks, where they stay immersed from 12 to 30 hours to hasten the removal of the slimy, saccharine coating around the beans.

Fermentation is one of the most vital steps in the preparation of washed coffee. The length of time the beans are kept in the tank partially determines their ultimate color and quality. After fermentation, the beans are again sent through long canals with continually running water until only clean coffee beans remain. Washed coffee usually brings higher prices than natural.

Classification of Coffee

However, there are still two important steps remaining before the crop can be considered ready for market. First, the coffee must be classified to meet the requirements of different markets and tastes. Then the beans must be graded to remove extraneous matter.

Classification is done by machine. These machines are designed to sort the beans by size, as they fall through screens of six different sizes, numbered from 14 through 19. Smaller beans drop through the 14th screen, while the largest beans drop through the 19th screen.

Following classification, the beans are graded by hand to remove unripe, faulty and discolored beans, small stones and other foreign matter. Generally, this is accomplished by having the coffee travel on a slowly moving conveyor belt before a line of pickers who remove the unwanted elements by hand.

We now have the finished product, green coffee beans, the commodity in which we trade on the *New York Coffee and Sugar Exchange, Inc.* In the country of origin, the green coffe beans are classified according to an elaborate grading table, based on such factors as the absence of foreign matter in a specific sample, and the quality and characteristics of that particular type of coffee.

In describing green coffee for the trade, we take many features into account. Appearance of the beans, their color, style, size and texture are important; their flavor is described by a host of adjectives, each conveying a specialized meaning to a coffee man, and describing them is as difficult as explaining a musical note to a deaf person. Among the terms used are bitter, mild, astringent, harsh, mellow, pungent, neutral, dry, rank, hidey, winy, acidy, Rio-y, woody, groundy, musty, grassy, sour, muddy, etc. In some countries, capital letters and Roman numerals are used as grade designations. There is an inexhaustible supply of variations in grade, each having an effect on price.

The beverages made from different types of coffee beans are labeled: "strictly soft" (sweet to the taste and very mild); "soft" (sweet and mild); "softish" (not quite so sweet and less mild); "hard" (harsh taste); and "Rio" (harsh and bitter). In the trade, we use two general terms: "Brazils" and "Milds." As may be inferred from this distinction, coffee from Brazil is generally strong and pungent, while other Latin-American countries specialize in milder types. Both of these broad classes are generally further broken down not only by the country in which they are cultivated, but also by local areas within each country, or by the ports through which they are shipped.

When the green coffee has thus been graded, it is packed in heavy fiber or jute bags for storage or shipment. The bags are of different weights, ranging from 132 pounds each in Brazil; 152 pounds in Central America; 154 pounds in Colombia; and up to 198 pounds in Cuba. Green coffee can be stored in a dry warehouse for a long time without suffering much loss of quality. The entire world crop of coffee moves to market by ship, where elaborate preparations are undertaken to keep the cargo from coming into contact with moisture. On a trip from Brazil to New York, for example, the coffee requires no care until about three or four days before its arrival here. Then, when the ship leaves the 80-degree temperature of the Gulf Stream for the 40-degree waters of the North Atlantic, the temperature change causes condensation, and vessels in the coffee trade cover exposed metal in the holds to prevent moisture from reaching the bags. Mechanical venting systems go into operation, for if the bags should get wet a green mold could develop on the beans, and their market value would be adversely affected.

IT'S ALL A MATTER OF TASTE

That cup of coffee you drink is not a product of one country alone, but usually of two or more. The blending process is what achieves the particular flavor, aroma, strength and body for which different brands are known. The man who does the blending works at a revolving table, using two highly developed, sensitive tools with which he was equipped by nature, his nose and his tongue. After freshly roasting and grinding the sample which he is to test and blend, he puts an amount equal to the weight of a five-cent coin into a cup, and pours boiling water over it. Immediately, the aroma rises, and the coffee is first judged by smell. Then the brew is tasted.

The tester's tongue's taste buds react differently to different samples, and on the basis of his knowledge the roasting plant is advised which varieties it should buy and how they shall be combined. Generally, coffee is roasted in the country where it is consumed, so as to satisfy the particular demands of its users. Each roaster's blend or blends are top-secret, and in many plants even the officers have no access to this "Classified Information." Roasting changes the appearance, flavor and composition of the bean. Green coffee has no flavor, but when roasted it develops an aromatic oil, known as caffeol, which gives coffee its distinctive flavor and aroma. It is the oxidation of this highly volatile oil after roasting and grinding that makes coffee deteriorate rapidly unless it is packed in vacuum containers. The roasting process produces other interesting changes in the composition of the coffee bean: its sugar and dextrine caramelize; its cellulose and ligneous matter carbonize to a certain extent; and the bean loses about 16% of its weight, at the same time increasing about a third in bulk.

Caffeine, the basic chemical ingredient of coffee, is an alkaloid which represents its stimulating property. Caffeine is a mild heart stimulant which relieves fatigue, and increases muscular strength and mental activity.

In all, there are 24 steps in the evolution of coffee from seed to cup, and of these, 14—most of which are arduous and time-consuming because they are done by hand—take place in the country of origin. Not until coffee reaches the roasting plant does modern technology come into play.

In a typical modern plant, this automation begins at the door, where one man controls the unloading of a 20-ton truckload of green coffee. In the conveyor system is incorporated a scale to verify the weight of this incoming shipment. The green coffee is next dropped through a chute where dust and dirt are removed by air-jets and automatic screens. From here, it is elevated into huge blenders which then feed it into giant continuous roasters which can handle 9,000 pounds an hour at 410 degrees, taking five minutes to roast and two minutes to cool. Automatically, the roasted coffee moves along to the stoner, where pneumatic or air control raises the coffee, but leaves below the stones which cannot rise with the air currents. Finally, the coffee passes through granulators, which grind the coffee at the rate of two tons an hour, then transfer it into bins which measure out 360 cans per minute, which are then filled, vacuum-drawn, and sealed.

The number of roasters in the United States has tended to decrease in recent years, with fewer roasters operating larger plants. At present there are less than 1,000 in the entire country, with the top five national roasters accounting for more than a quarter of total imports into the country. The 60 largest roasters do about 80% of the roasting business, with the top five alone being responsible for 40%.

Coffee: 'A Child of Panic'

From the time coffee reached maturity as an important article in international commerce, its history has been a succession of crises, panics, depressions, chaos and disaster, followed by relatively short periods of tremendous success. Prices would have a range where the high was ten times the low in just a few years. The Arabians, who supplied the world's coffee until around the 16th century, were the only producers in coffee's history to lose their market without an overproduction problem.

Since then, practically every decade has seen a boom-bust cycle in coffee, and those in the coffee trade have thus lurched through alternating periods of catastrophe and elation.

Basically, the reason for this condition is the length of time it takes to bring a coffee tree into bearing. When prices are high, new plantings are made, although it is manifestly impossible to foretell what prices will be five years hence, when these new plantings begin yielding their crop, and the surplus which they create brings on an adjustment of the supply/demand factor, and soon the cycle is complete.

The present *New York Coffee and Sugar Exchange*, formerly known as the New York Coffee Exchange, had its birth pains during the Civil War, during which there had been an unprecedented advance in coffee prices. With the end of the war, the usual reaction set in, and prices dropped sharply until about 1870, when reports of short crops sent prices skyrocketing again, leading to increased new plantings in Brazil and other South American areas. This increase had later far-reaching effects. Meanwhile, short crops continued through 1874, and with the grain and cotton markets quiet, coffee was king. Huge speculative trading took place in coffee in a disorganized way. From 1875 through 1878, coffee prices fluctuated sharply, and several important firms formed a syndicate called "The Trinity" to control the market. These merchants wound up carrying most of the New York stocks of coffee.

In 1878 and 1879, reports were received and confirmed that the increased plantings earlier in the decade indicated a record crop. Early in 1880, the syndicate found itself holding a very heavy load, with imports mounting, and faced the problem of holding up prices while getting out from under. Its great effort being centered on Brazil coffee, the syndicate allowed prices of other growths to decline.

But Brazil had produced a record crop of 3,500,000 bags when expectations had been for an output of 2,000,000, and the syndicate's action had the effect of touching off a huge stoploss order. The inevitable happened. Prices went smashing. Failures in London and Paris involved some of the best of the oldest New York names. Firms with a century of history behind them were crippled. There was complete demoralization in the coffee trade.

After the debacle, some members of the trade realized that something had to be done to avoid a repetition of the disaster. The solution turned out to be the forming of the New York Coffee Exchange, and a handful of trade interests organized the Exchange, which opened for business on March 7, 1882.

From its inception, the Exchange has been of immeasurable value to the trade. Prices arrived at by open outcry are given wide publicity; just and equitable principles of trade have been established; rules and regulations are uniform; classifications have been standardized; and general information is widely disseminated. While coffee is consumed throughout the year in nearly equal quantities, it is harvested and marketed at different times in different countries. Producers would be in constant financial difficulty if they were forced to sell their crops at the prices prevailing when their new crops come on the market. The future-delivery contracts provided by the Exchange enable producers and consumers to thus bridge time and space.

HOW THE EXCHANGE FUNCTIONS

In the August 1959 issue of *The Analysts Journal,* I described in detail the trading mechanism of the Exchange as it pertained to sugar, the subject of that article. In principle, coffee trading operates along the same general lines, with certain variations peculiar to coffee. At present there are two active contracts, "B" and "M". The "B" contract calls for delivery in a New York warehouse licensed by the Exchange of 32,500 pounds of Brazilian coffee shipped through the ports of Santos, Paranagua, Angra dos Reis or Rio de Janeiro, with the base grade being Santos No. 4, Strictly Soft, Fair to Good Roast, Solid Bean, with additions or deductions for variations in grades, ports of shipment and quality description, according to differentials established by the Exchange's Committee on Coffee. The "M" contract requires delivery in a New York warehouse licensed by the Exchange of 37,500 pounds of washed arabica coffee of Colombian growth known as Medellin, Armenia, Manizales, Bogota, Sevilla, Girardot, Libano or Tolima, or Mexican, Salvadoran or Guatemalan coffee, with the three first-names Colombian growths as base grades, and the others being deliverable at variations against the basis in accordance with differentials established by the Committee.

Before coffee can be delivered in settlement of a sale made on the Exchange, it must be "certificated." This means that an official panel of Exchange graders has examined the coffee and found it to be of the grade called for in the contract, and that the coffee has been found to be uniform, is stored properly in a licensed warehouse in this city, and that it has been weighed by a weighmaster licensed by the Exchange who can attest that the weight is correctly stated.

A new contract to cover African coffee is now under active consideration.

During the 77 years of the Exchange's existence there have been a number of contracts used as a basis. None has ever really proved to be entirely satisfactory to all segments of the industry, mainly because they have been too free or too restrictive in the kinds of coffee to be delivered. Coffee is not a fungible commodity in the sense that, say, sugar is, because whereas a sugar refiner can take delivery of sugar and use it, as is, in his operation, a coffee roaster relies on taste as to the acceptability of a particular lot of coffee, and even where two lots may be described in identical terms, a roaster may find one of them more or less desirable for his particular blend.

If this all sounds quite complex, it is only because it is true. Coffee *is* a complicated commodity. During the Second World War, when Washington was administering controls, there were 3,764 orders and regulations governing coffee during 1942 alone. The axerage coffee man had one foot in his home market, one foot in Washington, and one foot in his mouth. Clerks and bookkeepers to keep track of directives were more important than salesmen.

Among the many honors held by coffee is its responsibility for the birth of the theory that costs can be raised without raising prices. This occurred when OPA raised the price which the importer paid to bring in coffee, but kept the existing ceiling price to the consumer.

TRADING MODUS OPERANDI

As described in the aforementioned article on sugar, coffee trading is done around a ring at one end of the large trading floor of the Exchange. The Coffee market opens at 10:30 with a call, which resembles an auction, beginning with the current month in the "B" contract, and continuing through the subsequent 12 months, following which the same procedure takes place in the "M" contract.

On the opening call, bids and offers are restricted to the particular month, and remain in force unless withdrawn. After the call, all months in both contracts are dealt in simultaneously, and bids and offers are valid only at the immediate moment they are uttered openly. Prices must be established by open outcry around the ring, and no trades are permitted except those made across the ring. Orders may be executed only by members of the Exchange, whose number is limited to 350, and who must have satisfied the Exchange as to their financial responsibility, business standing and integrity before being admitted to membership.

The Exchange, which moved into new quarters two years ago, has the most modern plant in the commodity futures field. The Floor is bounded by phone booths containing public and private lines to members' offices and to their customers. Speed and efficiency are inherent in the operation. Many of the largest Wall Street wire houses are members of the Exchange, and handle a large share of the business. Their customers include producers all over the world, roasters, jobbers, shippers' agents, brokers, and speculators who are attracted to coffee trading by its wide price movements.

The trading range in coffee is limited to 2 cents a pound, or 200 points, on any single day. In dollars, this means a maximum daily permissible fluctuation of $650 per contract in "B" and $750 in "M". Considering that margin required to trade in coffee is at present $1,000 for "B" and $1,200 for "M", the potential for profit is obviously enormous. Of course, so is the risk of loss.

Coffee futures are without a doubt the most volatile trading medium in the financial field. Many other commodities have active movements under unusual conditions, and many stocks post occasional wide gains or losses, but the coffee market is so thin that it does not require dramatic news to bring about substantial price changes. In its evolution, coffee has developed into a "1 lot" market, with floor brokers, often under customers' instructions, rarely indicating quantity other than 1 lot. In sugar, for example, a broker might be better off at times if he showed his hand and made a bid for his full quantity, say 20 or 50 or 100 lots, because a potential seller might be looking for quantity, and might hit a volume bid, but might let a bid for a smaller quantity go by rather than establish a lower price for just a few lots. In coffee, a buying or selling order for just a few lots many times results in price changes of 25 and 50 points, so that while the coffee futures market is a "scalper's paradise," a trader must, of necessity, be nimble.

'Switching' and 'Spreading' Popular

In addition to straight buying and selling in each contract, there is considerable activity in "switching," "spreading" and "straddling" in which a trader does not merely buy 1 December "B," hoping to resell it later at a higher price, but may buy a December "B" and simultaneously sell a March "B" or sell a May "M" and simultaneously buy a May "B".

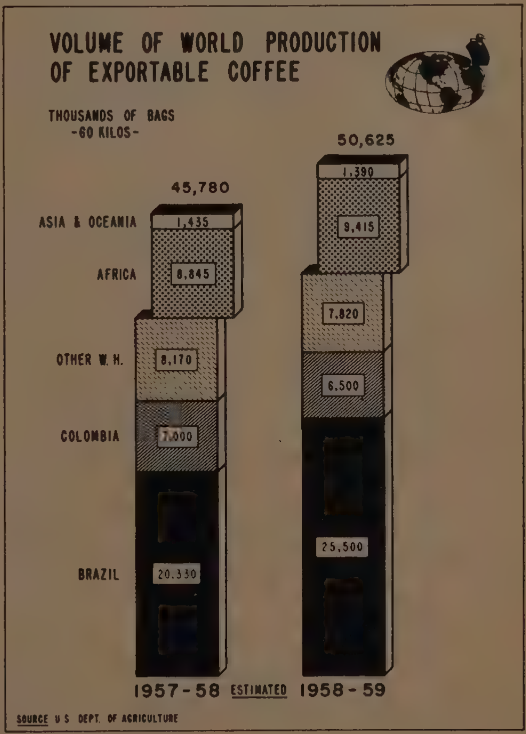
While in theory, being long of one contract and simultaneously being short of another would appear to leave a trader in a comfortably hedged position, actually, even this operation is subject to enormous fluctuations. There have been times when September "M" has been 2,200 points over September "B". Other times it has been 200 points over. December "B" has been 2,000 points over July "B" at certain times, and has been 300 points over at others. Thus, the speculative opportunities in coffee trading provide considerable latitude in expressing a trader's judgment. It is much the same as a securities trader's being able simultaneously to sell American Motors and buy General Motors at the existing difference, without having them regarded as separate and distinct transactions, subject to full margin requirements on both sides. A coffee trader may set up a "B/B" or "M/M" switch for a margin deposit of $500, and may establish a "B/M" straddle for $1,000.

While the spot month generally approximates the actual commercial value of coffee, later months are subject to widely divergent interpretations as to their probable value. Bear in mind that at this writing traders are operating in contracts for delivery as distant as next September, and will shortly be trading for delivery in December 1960. These positions are the beginning of the new crop in Brazil, and the rest of Latin America, respectively. Forecasts as to whether those new crops will be lush or meager are only guesses based on present flowering, so that traders attempting to discount future developments are trading more on hope than on knowledge. In the coffee business, obviously, everyone's hobby is amateur prophecy.

The history of coffee has featured tremendous variations in year-to-year production, with one year's crop sometimes twice that of the preceding year. As I have previously noted, with coffee trees taking some five years to begin producing, high prices in any given year generally stimulate plantings which may come into being when there is a glut of the bean. On the other hand, when prices are down the harvest does not tend to shrink greatly, because farmers generally continue to pick their trees as long as they can cover their expenses.

More often than not, coffee's problem has been oversupply, and as a result, major producing countries, especially Brazil, have resorted to artificial measures to support prices. The price of Brazilian coffee has been under official control most of the time since 1906; and during the comparatively few years in which there has been no systematic plan of control there has, nevertheless, been a certain amount of official assistance. There have been "valorization" plans and "permanent defense" plans, and I might add, parenthetically, that the New International Unabridged Dictionary defines the word "valorization" as the "act of attempting to give an arbitrary market value to a commodity, usually by government interference". And in order to clarify the meaning, the dictionary explains the meaning by referring to what is done to coffee prices.

Because of "valorization" later positions generally tend to sell at discounts under nearby ones, and this



SOURCE U S DEPT. OF AGRICULTURE

trend brings me to a discussion of a most interesting phenomenon peculiar to coffee trading.

HOW TO MAKE MONEY WHEN WRONG

These discounts exist, for while producers are taking artificial measures to maintain spot prices, the trade is inclined to take a dim view of the future outlook, in the face of existing large supplies hanging over the market, plus the output of the coming crop. Discounts have been so wide in recent years that if one had gone long at the very top of the market in 1954, paying 96.35, the all-time high, and had then successively sold that position, and replaced it with the next active month at the existing discount, and continued to do that operation until the present time, *he would now show a profit of almost* 800 *points, even though the market has declined over* 6,000 *points in that time,* despite being long and wrong on the market's trend.

Of course, margin calls at times would have been substantial, but if one had the capital and courage to stick to his guns the end result is indeed surprising. In principle, this procedure is akin to dollar averaging in securities, except that in securities there is no profit unless the market recovers to a point where it stands higher than the average of all the purchases, whereas in coffee futures the profit has been achieved despite a 65% decline in the price level from the starting point.

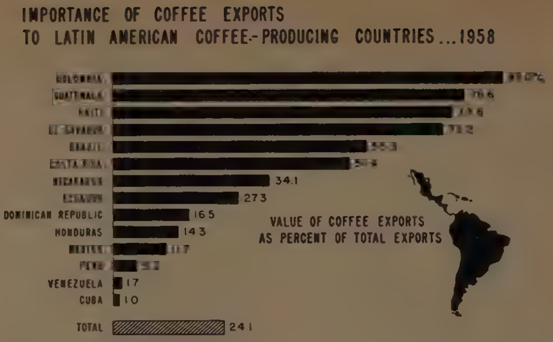
Other Salient Features

I reviewed the similarities and differences between trading in stocks and trading in sugar futures in my previous article. If you will re-read that article in the August 1959 issue of *The Analysts Journal* and substitute "coffee" in place of "sugar" you will have a basis for evaluating the place of coffee futures in the financial scheme of things.

Orders are entered for purchases and sales of coffee futures just as they are for stocks. There are market orders, limit orders, GTC orders, stoploss orders, "not held" orders, "disregard tape" orders, "on bid only", "don't show your hand", "don't make the market", "pull away if they come easily", and all the variations of them that active traders have developed for uses in all markets.

There is a Clearing House, an organization affiliated with the Exchange, to which each day's transactions must be reported. The Clearing House replaces both buyer and seller of a contract, so that the buyer regards the Clearing House as the seller, and vice versa. In this way, transactions are offset, and money differences between members are settled each day. Thus, one party may close out his interest in a transaction at any time without the other party to the original contract being involved in its liquidation.

Membership in the Clearing House is composed exclusively of members of the Exchange, who have deposited $15,000 to the Guaranty Fund, which remains on deposit with the Clearing House as long as the firm is a clearing member, and who have deposited a fixed original margin on each contract by paying to or receiving from the Clearing House.



Each Clearing House member must maintain an office in New York City not more than one-half mile from the Exchange, so that notices may be delivered promptly, and also, in the event of an adverse market movement, the Clearing House may deliver by messenger a demand that a certified check for the required margin be deposited within one hour following the demand. Those members of the Exchange who do not choose to join the Clearing House must clear their transactions through a member of the Clearing House.

OUTLOOK AND CONCLUSION

In the Western Hemisphere, there are dollars, cruzeiros, pesos, colons, sols and bolivars. One of the most important mediums of exchange is not a currency at all; it is coffee. Coffee is green gold to Latin America, its largest export. It is grown in important quantities in 14 of the 20 Latin American republics, and earns up to 85% of the dollar exchange in some of them. Coffee is so important to the economies of countries south of the border that its price has become a vital political issue, and either officially or semi-officially, through direct intervention by the Government or one of its instrumentalities, defensive action is constantly being taken to keep coffee from finding its true market value. Because Brazil and Colombia have the major stake by virtue of the former supplying all the coffee traded on the "B" contract, and the latter the major part of the "M", those countries are responsible for most of the forces which act on the Exchange contracts.

Today's world is full of cure-alls for economic ailments, and the major Latin-American coffee producers —notably Brazil—have invented and used most of them. With most commodities, the usual market factors are physical: production, weather, infestation, and transportation. Of course, these are of vital importance to coffee too; but the political aspects are assuming an increasing market role. The financial strength of producing countries, their foreign trade balances, and their willingness and ability to join ententes to withhold coffee from the market are what make the market today.

Current coffee problems stem mainly from the great frost in Brazil on the night of July 5, 1953, and, to a lesser extent, that of July 30, 1955. Hundreds of millions of trees were destroyed then, and the market reacted to the news. The 1953 frost news did not upset the market all at once. As a matter of fact, when the news first came in, the market held fairly steady. It moved forward somewhat, and then retreated. But under pressure of rumors it advanced about 10 cents a pound, and then it began feeding on itself. As old shorts covered, driving prices higher, new shorts came into the picture, and suddenly the market reacted to a situation of "strong demand" and "no supply." The market underwent the most phenomenal price rise in its history, and rose to record heights by the following April.

'The Bottomless Cup'

Throughout the world's tropical zone, land was withdrawn from other crops and devoted to coffee. Every available bag of coffee, even those in producing areas intended for local consumption, was rushed to market. Consumers, being asked $1.50 for a pound can of roasted coffee, began watering down their brew. The pound of coffee which had formerly made 40 cups was extended to make 65.

It turned out that the loss in production had been vastly over-discounted. Suddenly on Aug. 13, the dam broke. Longs, seeking to nail down their profits, found no bids. Offers continued to pour in lower and lower. Stop orders were touched off. In a matter of minutes, all positions were offered at the limit down, with the coffee ring bearing a strong resemblance to what the New York Stock Exchange floor looked like in October 1929.

For eight consecutive days, each opening call found offers at the limit down, and no bids in sight. Longs lost $5,200 per contract in that time. One of the most significant results of the break was the loss of confidence in the coffee market, which still prevails today. The trade feared carrying its usual inventory, thus placing a heavier burden on producing countries. While the market has had fairly violent ups and downs since, its trend has been distinctly lower, and there appears to be no reversal in sight yet.

Hedging—the usual economic function for which a futures market exists—has been made difficult in coffee by the continued outlook for lower prices, because the discounts on distant positions has resulted in the establishment of sales prices on a constantly lower basis, which show losses when they are covered.

Consequently, coffee futures have tended to be utilized lately by producers, and foreign and domestic speculators. Producers, being long of the actual commodity, should, theoretically, be sellers of future. Instead, they have generally maintained a supporting long position, principally in the near month, to try to hold up the price as best they can, taking advantage of the wide publicity given to prices established on the Exchange. Speculators have also been fairly active, with many of them holding a bearish viewpoint. When I speak of "speculator" I mean the outside public, not connected with the coffee trade; though, in truth, everyone in the coffee business is of necessity a speculator. Many in the industry would undoubtedly dispute my referring to them as "speculators" but it seems to me that in a business where right at the start a man plants a tree now and knows that he won't see any output for five years, he is certainly taking a flier *in the fullest sense of the term.*

International Agreement Cited

Although the downward trend of prices has been halted at times by agreement among Latin-American producers to regulate exports and establish minimum prices, and even though there has recently been concluded an international agreement which includes African producers for the first time, the market has thus far shown no signs of recovery. Already, Brazil has been rumored to have made special "deals" where the actual selling price has been considerably under what that country holds out to be its "minimum" export price. The Brazilian economy has been severely strained, and its Government has paid for its purchases of coffee withheld from the market with printing press money. Appeals to the International Monetary Fund and similar agencies have brought but partial relief.

Because coffee is a major link in the "good neighbor" policy, the United States has an important stake in coffee prices. And now the U. S. has itself a new problem, because coffee has just recently become a domestically-produced commodity. Hawaii, our newest State, turns out about 100,000 bags of coffee a year, so domestic politics may also become a factor in the coffee picture. If the U. S. Government takes care of its cotton, wheat, corn, egg and tobacco farmers, will it have to do something for its coffee farmers? At present, that may be of but minor importance, but politics is a funny business and leads to strange developments. Also in the realm of politics is the fact that we buy over a billion dollars' worth of coffee from Latin-American countries, who ship that money right back here to buy our products, so that their well-being is important to the United States. In addition, our State Department must be concerned that economic ailments in Latin America do not force that area to go behind the Iron Curtain for relief, so that constant bailing out South and Central American countries seems to be par for the course.

Estimates of production are made annually by several different authorities. The data are rarely comparable. For one thing, producing countries generally tend to err on the low side. Also, the definition of production is sometimes total prouction, and other times is total production minus domestic consumption. The U. S. Department of Agriculture, an organization which tends to be conservative in its estimates, calculates that total world production this year will hit 67,000,000 bags, while the present level of consumption is estimated to be somewhat under 40,000,000. Thus, the surplus going into the next crop year will be almost 75% of normal requirements.

Brazil, and to a lesser extent Colombia, controls enough of the market to influence world prices without being in a position to control new production, so that, in effect, all other coffee producing countries in the world have been the beneficiaries of Brazil's price control schemes. They have increased their share of the market while under the protection of the Brazilian umbrella. The newest development in coffee, instant coffee, which makes substantial use of cheaper African coffee, has accounted for an ever-increasing share of United States consumption, mainly at the expense of Brazil. Some observers believe that within five years Africa will be producing about 40% of the world's coffee; and until Latin America accepts the fact that coffee is, after all, just a commodity and not a national patriotic symbol, periodic panaceas which have short-term benefits, at the expense of long-range planning on the problem, can do no more than prolong the agony.

Yet, despite the pessimism expressed in this article, I do not recommend that the reader rush to phone his broker with an order to go short of coffee. The coffee futures market has more moves than a chess champion playing 20 opponents simultaneously, and about the only sure thing in coffee is that it can suddenly do just the opposite of what it ought to. One of these years, Mother Nature is going to do what comes naturally, and while I hope we never have a repetition of the 1953-54 "frost" market, I believe that the present excesses will eventually be corrected. Furthermore, producers are engaged in a tremendous campaign to educate the American housewife and restaurant man to go back to making coffee properly, that is, to get some 40 cups to the pound instead of 65. With coffee one of the few commodities available at the neighborhood supermarket at prices equal to those of 10 years ago, it certainly seems reasonable to expect an increase in consumption through this educational process. My own feeling (facetiously) is that if using H_2O makes coffee weak, perhaps the solution would be to use H_1O. However, I am not certain if this would result in stronger coffee, or only half a cup.

On the other hand, with the statistical position what it is, I wouldn't buy coffee here, either, feeling that I would rather wait until it showed signs of coming out of the depression, and would rather pay somewhat more for it when it appears to be in an uptrend.

My firm and numerous Stock Exchange houses which are members of the New York Coffee and Sugar Exchange issue periodical market reports which can be used to provide some idea of what is going on in coffee futures, and are available for the asking. Any member firm may be consulted as to margins, commission rates and similar details which I have omitted from this presentation.

The final thought which I want to leave with you is that if you have customers who have been locked up in a stock which "hasn't done a thing" while IBM, Zenith, Texas Instruments, Polaroid, etc., have been putting on a show, and have complained that they want something which "will give them action," I heartily recommend coffee futures.

Finally, as a reward to those of you who have stayed with this article right up to the end, I am listing some exotic coffee drinks, which will impart a touch of glamor to your meals.

Roman Expresso: Fill tall, warm glasses with Espresso coffee. Add a twist of lemon peel.

Caffe Cappuccino: Add steaming milk to the above, half and half. Dust cinnamon over the top.

Cafe Borgia: Combine equal parts hot Espresso coffee and hot chocolate. Top with whipped cream. Sprinkle with grated orange peel.

Zabaglione Coffee: Combine in a double boiler: 4 egg yolks, 4 tablespoons sugar, ¾ Espresso coffee. Whip until light; serve at once.

Serendip: Steaming Espresso and steamed milk, half and half, served in a tall cup, topped with sweetened whipped cream, grated orange peel and a dash of nutmeg.

Viennese Coffee Franz Josef: Place a half-pint heavy cream in a metal bowl and place over a second bowl filled with ice cubes and water. Using a wire whisk, beat stiff. Beat in one tablespoon sugar and the scrapings from the inside of one inch of vanilla bean. To serve, fill tall chocolate cups three-quarters full with freshly-brewed extra strength coffee, add a scoop of chocolate ice cream to each. Accompany with whipped cream topped with a sprinkling of instant coffee that has been heated in the oven for a few minutes.

Irish Coffee: Ask any other member of an Analysts' Society. He probably knows the recipe as well as he knows the formula for computing the Dow-Jones Industrial Average.

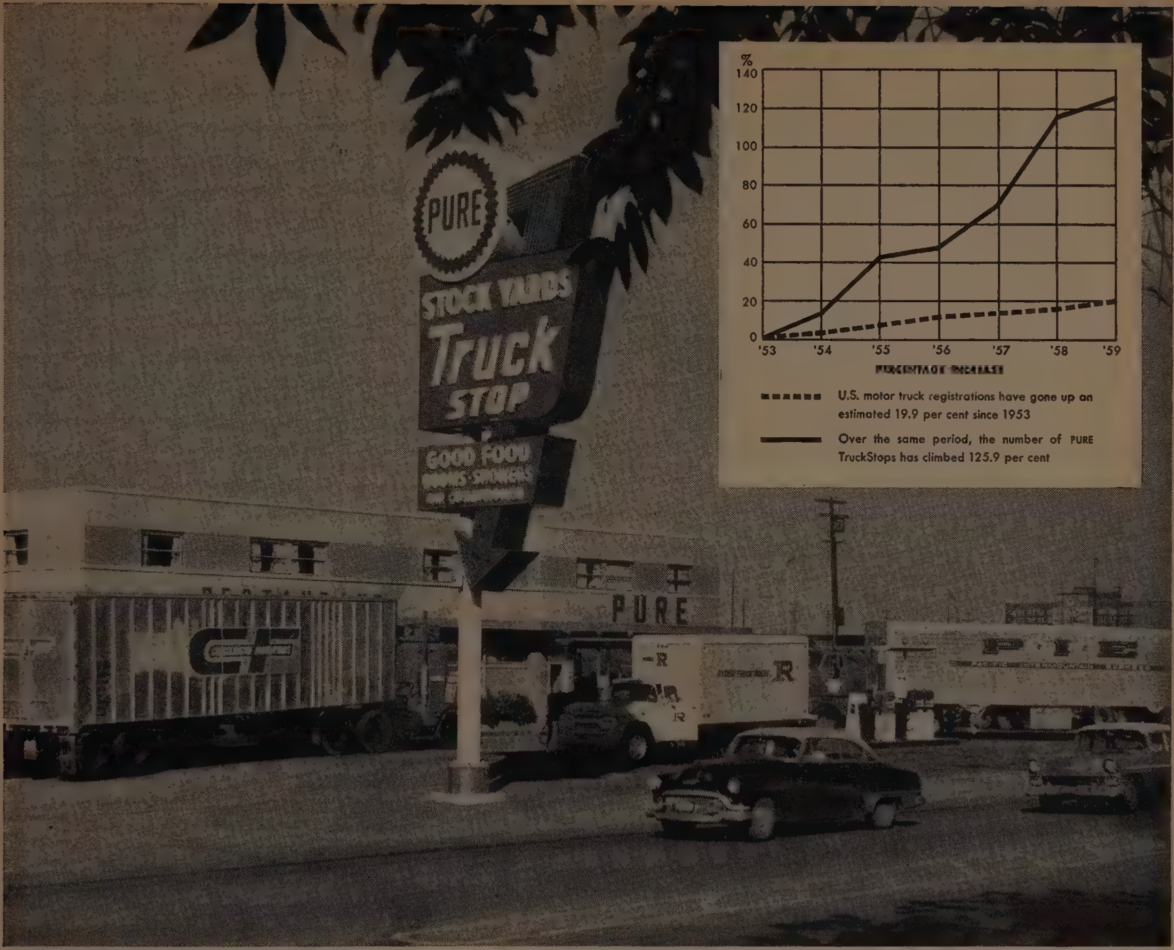
INTERNATIONAL HARVESTER COMPANY

The Directors of International Harvester Company have declared quarterly dividend No. 179 of sixty cents (60¢) per share on the common stock, payable January 15, 1960, to stockholders of record at the close of business on December 15, 1959.
GERARD J. EGER, Secretary

RYDER SYSTEM, INC.
Leaders in Trucking
& Truck Leasing
DIVIDEND NOTICE
The Board of Directors has today declared a quarterly dividend of 17½¢ per share on the Common Stock payable November 16, 1959, to the holders of record October 19, 1959.
ARTHUR H. BERNSTEIN
Secretary
Miami, Florida
October 5, 1959

INTERNATIONAL HARVESTER COMPANY

The Directors of International Harvester Company have declared quarterly dividend No. 165 of one dollar and seventy-five cents ($1.75) per share on the preferred stock, payable December 1, 1959, to stockholders of record at the close of business on November 5, 1959.
GERARD J. EGER, Secretary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PERCENTAGE INCREASE
U.S. motor truck registrations have gone up an estimated 19.9 per cent since 1953
Over the same period, the number of PURE TruckStops has climbed 125.9 per cent
PURE
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Truck
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PURE leads the field in service to a growing industry

The Pure Oil Company now has over 40 per cent of the specialized truckstop stations in its marketing area—and more are on the way

In the early fifties, The Pure Oil Company recognized the growth potential of the trucking industry and the need for special service stations that would meet the needs of truckers.

Today PURE, industry leader in truckstop service, has 235 of these high-volume outlets strategically located along key truck routes from Minnesota to Florida, from the Dakotas to the Eastern Seaboard.

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PLASTICS

another multi-billion-dollar industry served by KOPPERS

Last year, plastics production set another new high when 4.4 billion pounds of synthetic resins and celluloses went into plastics. In the next three years, production is expected to increase at least 14 per cent a year as uses for plastics continue to multiply.

In the home you may soon see entire translucent roofs, fluorescent ceilings, movable interior wall partitions, and even electric appliances made from plastics.

In supermarkets you are now buying tomatoes, ice cream, and cheese, as well as many other foods, in low-cost, disposable plastic containers.

The building industry now uses plastics for wall covering, flooring, glazing, paneling. And foamed plastics are used to insulate curtain walls and other types of "sandwich" panels. New jobs for plastics are being found every day.

Use of plastics in housewares, toys, packaging, sporting goods, power and hand tools, electric components, and now missile and rocket parts continues to grow in variety and volume each year. Manufacturers of automobiles, refrigerators, and lighting fixtures are applying plastics more widely.

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Profitability of International Oil Companies

by Paul H. Frankel and Walter L. Newton

DURING THE LAST FEW YEARS foreign operations of American oil companies, including refining and marketing, have become increasingly relevant for their profitability. This is one of the results of the reduction of the U.S.A.'s share in free world consumption of petroleum, which, before the last war, amounted to 66%, but by 1958 had fallen to 54%. Simultaneously, and for related reasons, American investors have become more interested in non-American oil companies.

There is a good deal of information available on the profitability of foreign production of crude oil, but less has been done so far to elucidate the question how profitable foreign refining and market are now and what the *future has in store* for that sector of the industry. In this respect there is a definite need for a more comprehensive understanding of the yield pattern of foreign refineries, which in many cases is entirely different from that to which one is accustomed within the U.S.A. The object of this article is to compare the different yield patterns—the product-mix of the refineries—and to analyze what they mean in terms of profitability.

The main feature of the U.S.A. petroleum refining set-up is that it has been, for the last 50 years or so, based on gasoline economics although more recently heating oils have become a runner-up. Gasoline was and still is the main target of refinery operations, not only in terms of realized value but also of volume. The fact that gasoline demand then grew proportionately more rapidly than that for other products resulted, a generation ago, in the development of the cracking processes which increased the gasoline yield far above that obtainable by straight distillation of crude oil.

Gasoline Yields Vary

The average yield of gasoline from U.S.A. refineries east of California was 29% in 1920 and 47½% in 1940. *Table* 1 shows that gasoline yield is now above 50% by volume, the remaining distillate cuts being 29% and heavy fuel oil only 13%.[1] It is interesting to see to what extent the heavy fuel oil yield of east of California refineries has gone down over the years, having been 21% in 1940 and 17% in 1950. This reduction of U.S. heavy fuel oil production at a time when the share of petroleum and natural gas in the U. S. energy supply has grown from 45% to 72% in the last two decades, is due first to the import of residual fuel from the Caribbean, and also to a great extent to the increased utilization of natural gas. The latter's scope has been widened by the incidence of long-distance gas pipelines.

Table 1 also shows clearly to what extent the profitability of refining in the U.S.A. depends on the relation of crude oil and gasoline prices.[2] To go to the other extreme and to give a picture of one type of foreign refining patterns, *Table* 2 is based on a typical yield of Venezuelan refineries: here we see that the major product is not gasoline but heavy fuel oil. The extent to which this is the case is partly due to the fact that lighter Venezuelan crudes are extensively exported to the U.S.A., the heavier types being primarily refined in the Venezuelan area. Although, especially in Venezuela, there is some considerable variance between both the yields and the costs of the different crudes, the approximate figures for gross margins as given in *Table* 2 indicate the order of magnitude and show that the gross refining margin is considerably smaller than that obtaining in U.S.A. refineries. At this stage, however, it must be remembered that the product-mix coming out of the Venezuelan-type of refinery involves equipment of a much less elaborate and costly nature, thus the difference between the net refining margins, although still considerable, is smaller than that between the gross margins. The same applies in varying degrees to refineries in other areas; i.e., in the Eastern Hemisphere. Venezuelan refinery economics cannot be appreciated though without taking into account that all refineries in Venezuela are integrated with crude production, whereas in the U.S.A. many refiners buy a substantial part of the crude they use from non-integrated producers. Consequently the Venezuelan-type refineries (including the large refineries in the Netherlands West Indies) have to be seen in conjunction with the economics of producing crude oil in that area and with those of marketing in the countries to which the products are exported.

The fluctuation of the gross margins of Venezuelan refineries and their present comparatively low level give some insight into the working of Western Hemisphere oil economics: the considerable increase in heavy fuel oil prices as of July 1, 1957, as compared with the 1955 position, was mainly the result of dislocation of demand following the Suez crisis and expressed itself fully in the increased price of crude oil, leaving the refinery margins practically unchanged.

The complete reversion of the supply/demand picture in the post-Suez period, expressed in the July 1, 1959, figures, shows that for political and other reasons refining margins are more easily compressible than posted prices for crude; and at this stage an observation is called for which will apply also to some of the figures for the Eastern Hemisphere, referred to later. The current *de facto* refining margins may easily be

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1. Footnotes are at end of article.

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smaller than those shown in our table, since it can be assumed that in some directions the actual realizations, especially in the case of heavy fuel oil, are lower than the officially quoted prices.

Global Outlook Studied

To give a picture of the European product-mix and gross refining margin we have distinguished between Southern Europe, with the average of Italian refineries as an example, and North-West Europe. The figures can be seen from *Tables* 3 and 4, respectively. Although the yield of gasolines in Europe generally, and especially in North-West Europe, is considerably higher than in Venezuela, it is less than half of that in the U.S.A., heavy fuel oils being prominent, alongside with distillate fuels.

Incidentally in the Eastern Hemisphere markets for these distillate fuels—middle distillates, as they are called in Europe—are quite different from those in the U.S.A. Whereas by far the largest part of middle distillates in the U.S.A. goes into domestic heating, there is, in the Eastern Hemisphere, a very substantial market for them as diesel oil, mainly for heavy road vehicles. The majority of heavy trucks and buses in that area now use this type of motor fuel. Although domestic oil heating—using the same range of products

Table 1

U.S.A. (East of California) - Refinery Margin$^{a)}$

Product	Typical Yield Volume %	1st July 1955		1st July 1957		1st July 1959	
		Price per bbl. $	Per bbl. of Crude $	Price per bbl. $	Per bbl. of Crude $	Price per bbl. $	Per bbl. of Crude $
Gasolines	51	4.78	2.44	5.00	2.55	4.82	2.46
Kerosenes	6½	4.06	0.26	4.38	0.28	4.04	0.26
Distillate Fuel Oils	22½	3.71	0.83	4.12	0.93	3.73	0.84
Heavy Fuel Oils	13	1.99	0.26	2.52	0.33	1.93	0.25
Others	4	4.00$^{b)}$	0.16	4.00$^{b)}$	0.16	4.00$^{b)}$	0.16
Total	97		3.95		4.25		3.97
Cost of Crude Oil per bbl.			2.87		3.18		3.09
Gross Refinery Margin per bbl. of Crude			1.08		1.07		0.88

a) Based on weighted average wholesale prices of crude oil and principal products as calculated by IPAA on basis of low quotations from National Petroleum News.

b) Estimated.

Table 2

Venezuela - Refinery Margin

Product	Typical Yield Volume %		1st July 1955		1st July 1957		1st July 1959	
			Price per bbl$^{a)}$ $	Per bbl. of Crude $	Price per bbl.$^{a)}$ $	Per bbl. of Crude $	Price per bbl.$^{a)}$ $	Per bbl. of Crude $
Gasolines*	13½$^{b)}$	aviation gasoline motor gasoline	7.25 4.41	0.62	7.35 4.57	0.64	6.41 4.15	0.58
Kerosenes**	4½$^{c)}$	JP4 Kerosene	3.78 3.68	0.17	3.99 4.04	0.18	3.49 3.78	0.17
Distillate Fuel Oils	18½	Gas oil 48/52	3.52	0.65	4.10	0.76	3.57	0.66
Heavy Fuel Oils	54½	Bunker 'C'	1.95	1.06	2.55	1.39	2.00	1.09
Others	3		3.00$^{d)}$	0.09	3.00$^{d)}$	0.09	3.00$^{d)}$	0.09
Total	94			2.59		3.06		2.59
Cost of Crude Oil per bbl.$^{e)}$				2.00		2.46		2.19
Gross Refinery Margin per bbl. of Crude				0.59		0.60		0.40

* including aviation gasoline.

** including jet fuel.

a) Platt's quotation f.o.b. Caribbean area.

b) 1% aviation gasoline, 12½% motor gasoline.

c) 1½% jet fuel, 3% kerosene.

d) Estimated.

e) 25% Tia Juana medium crude oil f.o.b. Amuay.
75% Lagunillas heavy crude oil f.o.b. Las Piedras.

as do diesel engines—is now coming to the fore in Europe, the fact that the market there for middle distillates is much more broadly based than it is in the U.S.A., and therefore less seasonally influenced, gives refining operations outside the U.S.A. much greater stability and ease and therefore helps to make them more economic.

Traditionally, refining in Italy was more profitable than in North-West Europe,[3] and this is reflected by the relation of the two gross margins of July 1, 1955. More recently the picture has been reversed, as shown by the 1957 and 1959 figures, the reason being that the reduction of the fuel oil price, which product is predominant in Italy, has been substantial, whereas the ex-refinery quotations for gasoline and middle distillates have remained virtually unaffected in North-West Europe.

In this context, however, it must again be remembered that *Tables* 3 and 4 reflect on the one hand posted prices for crude oil and average frieghts (AFRA),[4] and on the other hand the so-called official world market quotations based on posted prices at the Caribbean, plus AFRA freight to Europe. This picture is to be qualified in two respects which, however, tend to cancel each other out to a certain extent: the posted prices are today hardly the genuine basis for arm's-length transactions and actual freight costs of any operator should be rather below the AFRA level. On the other hand, products realization would in many cases—especially in markets outside the United Kingdom and France—be considerably below the "official" ones which have gone into the making of *Tables* 3 and 4. On the whole it can probably be said that the actual margins are not higher than the theoretical ones in *Tables*

Table 3

Italy - Refinery Margin

Product	Typical Yield Volume %		1st July, 1955 Price per bbl. a) $	1st July, 1955 Per bbl. of Crude $	1st July, 1957 Price per bbl. a) $	1st July, 1957 Per bbl. of Crude $	1st July, 1959 Price per bbl. a) $	1st July, 1959 Per bbl. of Crude $
Gasolines*	16		5.54 b)	0.89	5.53 b)	0.88	4.82 b)	0.77
Kerosenes**	5	Kerosene	4.46	0.22	4.46	0.22	4.46	0.22
Distillate Fuel Oils	19	Gas Oil	4.41	0.84	4.41	0.84	4.41	0.84
Heavy Fuel Oils	44½		2.62	1.17	3.08	1.37	2.42	1.08
Others	7½		3.00 c)	0.23	3.00 c)	0.23	3.00 c)	0.23
Total	92			3.35		3.54		3.14
Cost of Crude Oil per bbl. d)				2.65		3.02		2.58
Gross Refinery Margin per bbl. of Crude				0.70		0.52		0.56

* including aviation gasoline.

** including jet fuel

a) Based on official ex refinery prices.

b) 20% premium gasoline, 80% regular gasoline.

c) Estimated

d) Average of Kuwait and Iraq crude c.i.f. Naples on basis of posted price and AFRA freight.

Table 4

N.W. Europe - Refinery Margin

Product	Typical Yield Volume %	1st July, 1955	1st July, 1955 Price per bbl. a) $	1st July, 1955 Per bbl. of Crude $	1st July, 1957	1st July, 1957 Price per bbl. a) $	1st July, 1957 Per bbl. of Crude $	1st July, 1959	1st July, 1959 Price per bbl. a) $	1st July, 1959 Per bbl. of Crude $
Gasolines*	24½	84 RM gasoline	4.80	1.18	87 RM gasoline	5.32	1.30	Average 87/90 RM gasoline	4.86	1.19
Kerosenes**	3½	kerosene	4.32	0.15		4.86	0.17		4.46	0.16
Distillate Fuel Oils	24½	gas oil 53/57	4.25	1.04		5.03	1.23		4.34	1.06
Heavy Fuel Oils	30	Bunker 'C'	2.68	0.80		3.49	1.05		2.78	0.83
Others	9½		3.00 b)	0.29		3.00 b)	0.29		3.00 b)	0.29
Total	92			3.46			4.04			3.53
Cost of Crude Oil per bbl. c)				2.90			3.33			2.88
Gross Refinery margin per bbl. of Crude				0.56			0.71			0.65

* including aviation gasoline

** including jet fuel

a) Platt's quotation f.o.b. Caribbean area and AFRA freight to Rotterdam.

b) Estimated.

c) Average of Kuwait and Iraq crude oil c.i.f. Rotterdam on basis of posted price and AFRA freight.

Table 5

Abadan (Persian Gulf) - Refinery Margin

Product	Typical Yield Volume %	1st July 1955			1st July 1957		1st July 1959	
			Price per bbl. a) $	Per bbl. of Crude $	Price per bbl. a) $	Per bbl. of Crude $	Price per bbl. a) $	Per bbl. of Crude $
Gasolines*	19 b)	aviation gasoline	7.25	0.90	7.35	0.89	6.51	0.81
		motor gasoline c)	4.20		4.10		3.76	
Kerosenes**	15	kerosene	3.68	0.55	4.03	0.60	4.07	0.61
Distillate fuel oil	16	Gas oil 53/57	3.57	0.57	3.99	0.64	3.86	0.62
Heavy fuel oil	40	Bunker 'C'	1.95	0.78	2.30	0.92	1.70	0.68
Others	2		3.00 d)	0.06	3.00 d)	0.06	3.00 d)	0.06
Total	92			2.86		3.11		2.78
Cost of Crude Oil per bbl. e)				1.86		1.99		1.81
Gross Refinery Margin per bbl. of Crude				1.00		1.12		0.97

* including aviation gasoline.

** including kerosene.

a) Quotations f.o.b. Abadan.

b) 3½% aviation gasoline, 15½% motor gasoline.

c) 20% 90 RM gasoline, 80% 79 RM gasoline.

d) Estimated.

e) Iranian light crude oil, f.o.b. Abadan.

3 and 4, but on the average in Europe they are probably not lower. Also there is the fact that most refineries, with some important exceptions in Italy and Germany, are run by vertically integrated companies which are influenced by the over-all margins rather than by those of each individual sector of oil industry operations.

Refining East of Suez

The picture is again different in respect of refining operations east of Suez, for which in *Table 5* we have taken Abadan as a significant example. The position is of about the same order for the other two major refineries in the Persian Gulf, Ras Tanura and Bahrain. The output of gasoline is almost as low as it is in Italy. Kerosene yields are, following the pattern of demand in the Indian Ocean, higher than elsewhere, and the output of heavy fuel oil is high, yet the refining margin, based on posted prices for crude oil and products, is consistently greater than anywhere else outside the U.S.A.

To explain this phenomenon one has to sketch first the history of the price structure for products east of Suez: from the latter part of World War II onwards, products prices at the Persian Gulf were identical with the Low of Platt's (Platt's Oilgram Price Service) at the U. S. Gulf. Since 1957 this automatic relationship has been broken and the Persian Gulf products prices are, for gasoline and heavy fuels, somewhat below those at the U. S. Gulf and the Caribbean, respectively. In view of the relationship of the crude oil prices and freight elements the margin between Iranian crude f.o.b. Persian Gulf and the products prices as above must by necessity be a comfortable one.

So far the markets in the areas supplied out of Persian Gulf refineries have, with the exception of Japan, been almost entirely in the hands of the companies which form part of the Iranian Consortium, and therefore there is less price competition there than obtains elsewhere. On the other hand, the actual realization for part of the heavy fuel oil must be well below the posted prices, not only for supplies to the U. S. and British Navies, but also for that part of the fuel oil yield which, failing sufficient demand in the natural marketing area for Persian Gulf refineries, has to be carried northwards through the Suez Canal to Western Europe and, at least before the import restrictions on residual fuel, even to the New York area. As to the future of that refinery margin, it must be expected that the construction of more local refineries, e.g., in Pakistan, Ceylon and Thailand, might affect the throughput and therefore the economics of Persian Gulf refineries. Also there is some political pressure to-

M. J. Rathbone, president of Standard Oil Co. (New Jersey), made the following observation before an October meeting of the New York Society of Security Analysts:

"During the decade after 1946, free world consumption of oil grew, on the average, at an annual rate of 8%. In the United States the rate was 6%, and abroad it was 12%. For the next several years, however, we anticipate a lower rate of growth — about 5% world-wide — reflecting an annual increase of 3½% in the United States, and 6½% in the free foreign world."

wards making products available to countries in the Indian Ocean area, at prices lower than are now posted.

Global Oil Economies Compared

Taking a comprehensive look at the economics of refining outside the U.S.A., one can first say that the fact of gasoline yields being lower than those obtained in the U.S.A. does not in itself mean that foreign refining is that much less profitable. The reason for this is that the lower aggregate products realization is to a great extent balanced by the lower cost of crude, including freight charges to the refinery.

The second important aspect of the comparison between U.S.A. and foreign areas lies in the fact that owing to differences in standard of living and taxation most foreign countries will not achieve, in the foreseeable future, the extent of demand for gasoline which has become characteristic for the U.S.A. and Canada. Even a much higher degree of motorization (if and when it comes) will probably be achieved by smaller motor cars using less gasoline per mile traveled. Furthermore, outlets for fuel oil, and in certain areas for middle distillates, are now growing much faster than those for gasoline; and, with the the possible exception of certain areas of France and Italy, the role which natural gas has assumed in the U.S.A. has to be filled by fuel oil made in refineries. This is a position which could be altered only by a *really* widespread use of natural gas in Europe, indigenous or imported. But either possibility is a long way off—if it ever should materialize.

The product-mix of most of the foreign refineries, far from being an unfortunate factor (owing to fuel oil yielding less money than gasoline), is in fact the key to the future of the petroleum industry in the Eastern Hemisphere. The industry has become firmly based on fuel oil economics rather than on gasoline, and the prospects of rapid extension of its operations lie mainly in the fuel field. As the profitability of the international oil companies has so far been bound up with the return on crude oil, the fact that the possibilities in the fuel sector are fully explored and exploited, leading as it would to even larger requirements for crude oil, can be considered as a positive not a negative factor. The same applies to that part of low-boiling distillation cuts, which is in fact in the gasoline range, but is being sold in Europe as raw material for the petroleum chemical industry at prices well below gasoline or distillate fuels. Yet the incidence of these outlets makes it possible to run the refineries at a high level of throughput and to use more crude than would be otherwise possible.

The very considerable resources of comparatively low-cost crude oil which have been developed abroad provide the basis of an oil industry much bigger than we now know it. The use of these resources cannot be confined to the comparatively narrow field of gasoline; i.e., of fuel for light road vehicles. The task of refineries is not to turn out high-priced products for limited use, but to cover the field of energy demand at large. The profitability of oil companies lies in their being of an industry in which the term mass production is about to take on a new and still vaster meaning.

FOOTNOTES

1. The yields shown in the tables are typical current yields. It is appreciated that these yields have changed slightly during recent years, especially in Europe where the gasoline yield has declined, whereas that of middle distillates and fuel oil has increased. These changes are not sufficient to affect the general trend of refinery margins.

2. The gross refinery margin as it results from Table 1 differs from the generally accepted I.P.A.A. published refinery spread because the latter, for continuity's sake, is based on a different and no longer operationally relevant product-mix; the figures in Table 1 are more in line with current actual yields in east of California refineries.

3. See "The Price of Oil in Western Europe" prepared by the Secretariat, Economic Commission for Europe, Geneva, March 1955, p. 30.

4. AFRA (Average Freight Rate Assessment) is a weighted average freight rate of all tanker charters, short-term and long-term, in operation calculated quarterly by a panel of London tanker brokers.

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October 22, 1959. *Treasurer*

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Grocery Industry Looks to a Bright Future

by Paul S. Willis

TRADITIONALLY, FINANCIAL ANALYSTS have been aware of the steady strength of the food and grocery manufacturing industry in resisting recessions. In recent years they have had reason to become aware that in producing today's wonderful new basket of groceries the industry has also become a growth industry. A short 15 years ago, for example, a good-sized, well-stocked grocery store offered about 3,500 items; today the number is closer to 8,000. Total consumer expenditures for food during the same period have grown from $31 billion to an expected $73 billion this year, and the sales of grocery and combination stores—the classification which is made up largely of today's modern and efficient super markets—have soared from less than $14 billion to an anticipated $46 billion for 1959.

Rising population and rising income have, of course, contributed to this growth; but the industry's sales have increased beyond anything which could have been forecast on the basis of just the increase in population and income. It used to be that the percentage of disposable income spent for food declined when national income rose. But that old rule has been broken in the last 15 to 20 years. Contrasted with 21% in 1944, the American people in 1959 are spending an average of 22% of their much larger disposable income for food. For this they received an annual basket of groceries which was greatly improved in terms of quantity, quality, variety, packaging and convenience. Compared with pre-war 1939, 20 years ago when the public also spent about the same percentage of income for food as it does now, the improvement is even sharper.

One way to bring that improvement into clear focus is this: If people were content to buy only the same types and quantities of food per person which they bought pre-war, they could buy that outdated grocery basket at today's prices for less than 16% of their enlarged incomes. The difference between that and the 22% they actually spend represents the additional economic values they want and which the food industry, collectively, has provided.

This ability of the industry to maintain food spending at a constant share of a rapidly rising disposable income is an especially noteworthy accomplishment to the numerous economists who argued that "it couldn't be done." Their argument was based on the many food consumption studies which show that at any one point of time the higher income families spend a smaller percentage of income for food than do lower income families. These economists therefore theorized that as the whole population moved up the income ladder the percentage of income spent for food would decline. What they overlooked was that things were happening that led families at each income level to spend a greater percentage than formerly. The effect of this has been that while per family income has more than tripled over the last 20 years, the percentage of disposable income which America spends for food is still about 22%—almost exactly the same as in 1939.

Maintaining this constant share of the consumer dollar has been a severe challenge to the resourcefulness and imagination of food manufacturers, particularly in view of the unremitting efforts of other industries to increase their respective shares. The makers of stylish and powerful automobiles, new, better and more efficient household furnishings and appliances, entertainment, sports, tempting and pleasurable equipment to enhance the enjoyment of increased leisure time, all have skillfully appealed to the consumer for a larger share of his disposable income.

Why the Industry Has Grown

Many things have contributed to the "plus" growth of the food and grocery industry. It has been especially stimulated by research, by new products, by improved old products, by new uses, by convenience and ready-to-serve foods, by built-in kitchen service, by great variety and large numbers of available products, by more and better advertising and promotions, by more effective merchandising, by consumers' greater understanding and by appreciation of the value of good eating, better trade relations, and, of course, the modernization of plants and improved over-all management operations.

A climate of dynamic expansion is forecast for the grocery industry during the next 10 years. For instance: by 1970 the potential spending increase for foods will be 60%. Dollarwise, this means that personal consumption expenditures for food, by 1970, could reach more than $115 billion a year—compared with an estimated $73 billion in 1959.

Paul S. Willis, a native Texan, has been president of the Grocery Manufacturers of America, Inc., since 1932. At the time he became GMA president, he was vice president and general manager of Comet Rice Mills of Texas. A year later the GMA presidency became a full-time position.

To all of the above we must quickly add as a very important contributing factor: the efficiency of our wholesale and retail distribution facilities and the beautiful super markets with their large assortment of offerings, attractively displayed, and where consumers have the freedom of choice to select the brands and products they like to buy.

Research, New and Improved Products

Among the growth factors listed, let's consider briefly the matter of research. The growth of the food and grocery industry has come about to a large degree as the result of the deliberate efforts of manufacturers to provide new and better products for the modern housewife. About 7,000 specially trained scientists and technicians, skilled in every phase of their work, are employed by food manufacturers. Convinced that tomorrow's products are the direct result of today's research, they are investing more than $100 million annually to improve their present products and to seek out new items which will add to the enjoyment of eating.

A look at today's grocery basket reveals startling changes from this research. The foods in the modern grocery basket are as different from those of just a few years ago as today's cars are from the Model T. Almost two-thirds of the items in today's grocery basket are new or have been basically improved since 1946.

The Convenience Factor

To a substantial extent these new and improved items are the products which have "built-in kitchen and maid services." These products fit our modern pattern of living, with homemakers of rising income seeking more time for children and community affairs, a better and more nutritious diet for their families, and with domestic help expensive and scarce. Convenience foods include many new frozen and canned fruits; vegetables and juices; frozen and refrigerated baked goods; brown and serve bakery products; instant coffee, tea, cocoa and other beverages; instant desserts, instant mashed potatoes and instant cereals; prepared baby foods; baking mixes of all types and varieties; frosting mixes; dehydrated and frozen soups; whipped cream and other toppings in collapsible tubes and aerosol cans; frozen complete meals; and many new housekeeping products, to mention a few.

In the past 20 years there has been a striking expansion in the consumption of these processed convenience foods with their many consumer dividends—time-saving, menu variety, high nutritive value, tastiness, and so on. The gains in the per capita consumption of these foods have been truly phenomenal; for instance, consumption of baby foods is up 1,700% during that period; frozen vegetables up 1,600%; frozen fruits and juices up almost 1,200%.

The ease and speed of preparation of the many convenience products means a saving of the homemaker's time and work in the kitchen of about four hours a day. Formerly, it required about 5½ hours a day to prepare the three meals for a family of four. Now it can be done in about 1½ hours. This is one of the reasons why 12 million married women can now work at full-time jobs, and it is an almost equal boon to the other 10 million women who work; many of whom do their own cooking.

Convenience Foods Often Cost Less

Modern convenience grocery products transfer much of the homemaker's work from the kitchen to the food processing plant. Yet, because of processing and distribution economies, they often cost her less than the same dish prepared at home from the raw ingredients. Studies show that a pound of shelled peas, frozen or canned, cost about 32c. Bought fresh, this same quantity of peas cost about 70c. Strained baby fruit and vegetables cost about 10c per can or jar at the store. If the homemaker were to prepare the same food at home, the raw ingredients at the store would cost her about 12c for green beans, 18c for peaches and more than 20c for peas.

Orange juice made from frozen concentrate costs about half as much as the same amount squeezed at home from fresh oranges. Devil's food cake made from a prepared mix, plus two eggs, costs 41 cents. Made at home "from scratch," it costs 53c.

Stimulate Sales

Let's take a look at some specific examples of the sales stimulating effect of convenience. In 1939 we consumed about five billion pounds of oranges. Stimulated by the development of canned and frozen orange juice, consumption has now climbed to 12 billion pounds.

Prior to World War II, Swiss cheese was made in big wheels with a hard, unusable rind. It went to the retail store in hunks which ended up in the back of the refrigerator to be brought out only when a customer requested an individually cut slice, which she then further sliced at home. With the advent of factory-sliced, plastic-wrapped consumer packages in the display case, consumption has doubled.

Non-fat dry milk, another convenience food, was scarcely known to American consumers before the war. Household use today is about 150 million pounds, which is the equivalent of about 1.5 billion pounds of fluid skim milk. This increase has been mainly a plus growth, not a shift from consumption of other dairy products.

Advertising, Promotion and Packaging

Grocery manufacturers are investing in excess of one billion dollars a year in advertising to promote the sale of food products, and they are devoting considerable research effort to make their advertising sell goods even more effectively. Any list such as the "Top 100 Advertisers" includes many food and grocery processors.

Grocery manufacturers actively develop many other types of effective consumer promotions. For example, it is estimated that grocery manufacturers currently issue about 10 billion coupons annually to consumers with a potential redemption value of about $1 billion. Coupons have proved to be popular and they add substantially to the amount of money available to the homemaker for buying her groceries. Coupons are particularly effective in the promotion of new products or established products with new features, and manufacturers have been quick to take full advantage of them.

Improved packaging is another important aspect of today's foods. The package performs a selling and merchandising job of utmost importance involving attractiveness, color, shape, label message and brand identification which will make the shopper notice the item, remember its advertised advantages, and buy it.

Improved Physical Facilities

Today's gleaming food factories are the last word in efficiency and cleanliness. Since the end of World War II, food manufacturers have spent about $8 billion for new and improved plant and equipment and their investment per production worker has increased from $8,600 in 1946 to more than $18,000 currently.

This growth of capital expenditure reflects the continuing efforts of the industry to do a more efficient job at lower cost. In addition, it reflects the tremendous sales and production expansion of the industry; the processing of more and better food for more people; new foods; and the higher degree of processing and packaging—with more "built-in" kitchen and maid services for the consumer. *For the investor, it presents an opportunity to participate in an industry which affords both bed-rock stability and dynamic growth.*

The Grocery Manufacturers of America has been pointing out for years that the lower average rates of net profit of food and grocery manufacturers per dollar of sales, have played a definite role in making their products a bargain for consumers. As measured by the GMA sample of 89 grocery manufacturers, after-tax profits averaged 4.6c per dollar of sales in 1939, and about 2.9c in 1958. However, because of the rise in sales, the long-run decline in the average profit rate on sales has definitely not meant a decline in the industry's earnings in total dollars. Sales of the 89 companies have grown from $5.4 billion in 1939, to $22.5 billion in 1958. Net profits after taxes have grown from $246 million to million to $684 million for the same years. And as dollar sales and profits have advanced, dividend payments have kept pace.

An important measure from the investor's standpoint, return on stockholder equity, is not easily measured on an industry-wide basis, for it varies widely between the several product sections of the industry. However, in 1958 this rate for the 89 company sample was better than 11%, which was somewhat higher than the figure for "all manufacturing" reported by S.E.C.

The steady growth pattern of the food and grocery processing industry has enabled it to earn a good return throughout the years and a better than average return in periods of recessions.

Food Sales During Periods of Recession

In fact, the food industry's continuing strength and expansion is particularly evident during periods of recession when other segments of business activity slip below peak levels. We have specifically analyzed food industry sales during the three post-war recessions. In each period, the food industry has had a seemingly irrepressible vitality. In 1948-49, food store sales remained within two per cent of peak in all but one month notwithstanding a decline of 11% in industrial production, and 6% in personal income. In 1953-54 food sales slipped only fractionally during the early months of the downturn, and long before the industrial production index had recovered, food sales were exceeding previous peaks. In 1957-58, food sales continued to set new peaks despite a pronounced decline in industrial output and a slackening in total personal income.

WHAT'S AHEAD FOR THE GROCERY INDUSTRY?

Most economic forecasts for the '60's predict a growth in the nation's business that borders on the fantastic: Gross National Product, up $270 billion; total personal income, up $220 billion; and consumer spending, up $164 billion. The population might increase as much as 43 million, and almost half the nation's families are expected to have incomes in excess of $7500.

If these estimates are correct, food and grocery manufacturers can look ahead to a climate of dynamic expansion. Although one leading organization foresees an increase of only about 30% in the rate of consumer food spending by 1970—just about enough to take care of the population increase—a well-known economist, who has studied food spending for many years, foresees a potential spending increase of 60%. That, of course, is on the premise that the food industry will take full advantage of its opportunities. Dollarwise, it means that personal consumption expenditures for food, by 1970, could reach more than $115 billion a year, compared with $73 billion in 1959. It means that sales of grocery and combination stores could approach the $75 billion mark, compared with $46 billion in 1959.

Manufacturers are alert to these potentialities. They are continuing and improving those activities which have contributed so much of the industry's fabulous growth of the past 20 years: new and improved products; new conveniences; wider variety and selection; better packaging; and more effective advertising, promotion and display. Contrasted with today's 8,000 item super market, we foresee the larger super market 10 years from now carrying some 12,000 items and that half will be different from those sold today.

Capturing the tremendous potential business of the '60's will be a difficult job. Competition with other industries for the consumer's dollar will be keener than ever. But we believe the potential will be attained because the people in this industry are imbued with a spirit of "restless unsatisfaction." They are constantly looking for new ways and new products to please the consumer. That is the spirit of which progress is made.

Like Today's Super-Highways...

there's more to Cities Service than meets the eye!

The New Jersey Turnpike is one of the world's greatest highways. To build it required 23 months of labor by 10,000 workers . . . a mountain of materials, including tons of Cities Service asphalt . . . and the expenditure of $255,000,000.

A casual trip along the turnpike does not reveal these facts any more than its 14 service stations—all operated by Cities Service—reveal the full scope of Cities Service enterprise.

Serving the petroleum needs of America today is a big job. So that it can do its share of this job, efficiently and economically, Cities Service has invested more than a billion dollars in modern facilities.

And what of the years ahead? Building for the future . . . preparing for greater tomorrows . . . Cities Service is expanding constantly. In the past two years it has spent over $350 million on this progressive program.

Only in this way can America be assured of what she needs for progress . . . more jobs, more and better petroleum products.

It required 80,000 man hours a day for nearly two years to complete the New Jersey Turnpike. This year, this showcase of modern engineering will accommodate 41 million motorists.

CITIES SERVICE

OIL'S FIRST CENTURY
-BORN IN FREEDOM
WORKING FOR PROGRESS

Analysis of Internal Risk in the Individual Firm

by Robert W. Mayer

WHAT IS THE NATURE AND DEGREE of risk in the individual firm? The question can have no general answer, of course, but to the financial or investment manager it is so fundamental that he must try to find some kind of answer in each particular case. As Dewing succinctly puts the matter, "Under our competitive system of economic values, . . . the rate at which (the earnings of) a business shall be capitalized, to obtain its value, will depend on the confidence the buyer may feel in the continuation of the earnings.

"This is the relative risk. The greater the risk, the greater the doubt of continued earnings, the lower is the capitalized value of those earnings; and, conversely, the lower the risk, the greater the value. Consequently, to proceed further with a study of the rate of capitalization we must analyze the risk of the business as an instrument for producing earnings."[1]

Discussion of risk in connection with business finance and investment has a long and distinguished history.[2] There are two respects, however, in which the literature is disappointing. In the first place, the analysis often undertakes to differentiate and classify various types of risk with familiar words used by different authors in senses which are inconsistent to the point of contradiction.[3] In the second place, little use is made of certain analytical techniques which are now familiar to financial analysts and which lend at least some precision to the argument. It is not the purpose of this paper to attempt a settlement of all the conceptual questions, but only to treat one phase of the problem of risk and to show how certain well-known quantitative methods can be applied to analysis of that phase. Even this limited objective, however, requires the adoption (and brief explanation, if not defense) of certain concepts necessary to communication on the subject.

Fundamentally, the financial or investment manager's concern about the individual firm is in respect to its prospective earnings (E), its risk (R), and its value (V). This concern may take the form of an explicit or implicit transformation of the prospective earnings into a capital value ($V = E/R$)—the concept referred to by Dewing in the passage quoted in the opening paragraph above—with a view, say, to passing judgment upon the propriety of the aggregate nominal value of the firm's securities (capitalization), or upon the reasonableness of their aggregate market value. Or, it may take the form of a determination of the rate of earning on the firm's aggregate book or market value ($R = E/V$) with a view to judging whether it adequately compensates for risk. The value theory on which this interrelation is based applies only to firms in unregulated, competitive industries. In the public utility and other regulated industries there are important institutional limitations on the interdependence of value, prospective earnings, and risk. This analysis, therefore, deals only with firms in the unregulated industries.

Risk is taken to mean the probability, expressed as a fraction not exceeding unity, that the firm will fail. There are many meanings of "fail," of course, some highly legalistic, some purely economic or financial; but they all reflect, as cause or effect, cessation of the prospect of productivity. To the financial or investment manager this[4] is the essential meaning of failure, and it is therefore the one adopted here.

Reasons for Corporate Failures

It is usually considered desirable to distinguish, if possible, between *internal* and *external* risks, for the reason that in the former case most of the evidence to be analyzed in evaluating the risk can be found within the firm, while in the latter case it must be sought outside. The distinction, however, is not so easy to make as might at first be supposed. Of the various kinds of risk commonly considered in the context of financial investment, some—e.g., the risks of operating inefficiency, of exhaustion of mineral deposits, and of imprudent financing—seem clearly internal as to both cause and effect. Other kinds—e.g., the money rate risk, the purchasing power risk, and the price (or market) risk—seem obviously external since their causes lie outside the firm and since they do not have differential impact on the productivity of individual firms, *per se*.

Still other kinds—e.g., the risks brought on by growth of the economy and by technological change—are external as to cause but may be internal as to effect. Since the focus of the financial or investment manager evaluating the general risk of the individual firm is on its prospect of productivity, any particular risk which casts a shadow upon that prospect will be regarded here as internal even though part of the evidence concerning it may have to be sought outside the firm.

Business risk is taken to mean the probability, expressed as a fraction not exceeding unity, that the firm's prospective business productivity will cease to be compensatory. Business productivity means the ratio of net income[5] to total capital. It is compensatory when Business Productivity = Pure Interest + Business Risk.

Business risk is not affected by the manner in which

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1. Footnotes appear at end of article.

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the firm raises its capital but only by the economic factors which govern the success of the firm as a producing unit. Such factors may be classified, for the sake of analysis, as (a) those which affect the *activity* of the firm's capital and (b) those which affect the *efficiency* of the firm's operation.

The activity of the firm's total capital may be measured by the ratio commonly called its turnover,[6] i.e.,

$$\text{activity} = \frac{\text{sales (or gross revenues)}}{\text{total capital}}$$

Other things being equal, business productivity varies directly with the activity or turnover of the total capital.

The activity of total capital is a composite of the activity of its elements. As a first step of analysis, it is appropriate to examine the elements to determine the relative proportions of fixed (long lived) assets and current (short lived) assets. Generally speaking, the larger the proportion of fixed assets—whose value is extracted by the firm's operation only over a long period of years—the less the activity of the total.[7] Any factor, internal or external, giving rise to expectation of an increase in the proportion of fixed assets thus tends to reduce the firm's prospective business productivity, i.e., to increase the business risk. (Such a tendency may be offset, of course, by expectation of an increase in efficiency.) Even within the fixed and current asset categories, shifts in the direction of longer lived forms reduce the activity of the total capital, so any factors giving rise to expectation of such shifts must be considered to increase the business risk.

Where sales or gross revenues arise from the disposal of different products or services in different markets manifesting substantially unlike demand conditions[8] they may require separate analysis. In this case, the important principle is that the more *indirectly* the demand is derived from some ultimate consumer satisfaction, the more susceptible the revenue to fluctuations from changes of demand. Thus, the greater the proportion of revenues arising from such sources, the greater the business risk. Where the firm's output is sold in a homogeneous market, on the other hand, this phase of analysis mainly involves examination of such factors as may affect the volume of sales without significantly altering the capital investment: changes in demand conditions, price and service policies, sales promotion, and the like. These do not lend themselves easily to ratio analysis, and they may require for their study considerable external evidence; yet they must often be investigated thoroughly as important determinants of prospective productivity and thus of business risk.

The efficiency of the firm's operation may be measured by the complement of the operating ratio, i.e.,

$$\text{efficiency} = 1 - \frac{\text{operating expenses}}{\text{sales (or gross revenues)}}$$

Other things being equal, business productivity varies directly with efficiency, that is, with the complement of the operating ratio.[9] Analysis of sales is essential in connection with efficiency, as well as with activity, since any cause which might bring about a decline of sales (without corresponding reduction of operating expenses) forebodes a diminution of efficiency and therefore of prospective business productivity; i.e., increases business risk.

Analysis of operating costs is of course equally important, especially of "indirect" costs"[10] which do not vary closely with the volume of sales and which thus produce a kind of "leverage"[11] in the operations of the firm. The greater the proportion of such costs, the greater the hazard to efficiency and to prospective business productivity, i.e., to business risk. Such cost analysis may also necessitate thorough study of conditions in the markets in which the firm must purchase its inputs of goods and services.

By way of summary at this stage, it may be observed that the factors discussed above in connection with analysis of business productivity are interrelated as follows:

$$\begin{aligned}
&\text{activity} && = \text{sales / capital}\\
&\text{efficiency} && = 1 - (\text{operating expenses / sales})\\
&\text{net income} && = \text{sales} - \text{operating expenses}\\
&\text{business productivity} && = \text{net income / capital}\\
& && = \text{activity} \times \text{efficiency}
\end{aligned}$$

That is to say, activity and efficiency, as defined, are the sole determinants of business productivity.

Financial risk is taken to be the probability, expressed as a fraction not exceeding unity, that the firm's financial productivity will cease to be compensatory. Financial productivity means the ratio of owners' earnings (net income minus financial expenses) to owned capital. It is compensatory when Financial Productivity = Pure Interest + Financial Risk.

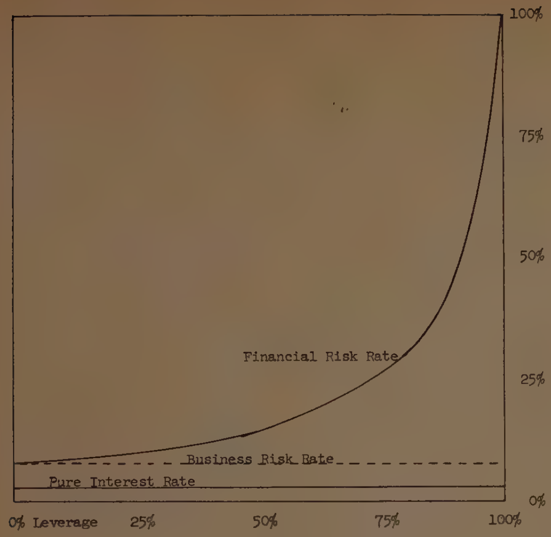
The firm's financial risk is governed by (a) its business risk and (b) the manner in which it raises its capital, i.e., the degree of financial leverage or "gearing"[12] in its financial structure. The relationship between business risk and financial risk, somewhat oversimplified, may be indicated by

$$\text{financial risk} = \frac{\text{business risk} \times \text{total capital}}{(\text{business risk} \times \text{borrowed capital}) + \text{owned capital}}$$

When there is no financial leverage—that is, when the firm employs only owned capital—financial risk is identical with business risk. Introduction of leverage produces a financial risk higher than the business risk; and as leverage is increased to such an extent that owned capital approaches the vanishing point, the financial risk approaches 100% (certainty) as a limit. See accompanying chart.

Financial Productivity Examined

This description oversimplifies the relationship because the cost of borrowed capital, although relatively constant, is not absolutely invariable and is a determinant, however minor, of financial risk. That is, complete explanation of financial productivity requires anal-



ysis of (a) business productivity, (b) financial leverage, and (c) the cost of borrowed capital.

Leverage may be measured by the proportion of borrowed capital in the financial structure, i.e.,

$$\text{leverage} = \frac{\text{borrowed capital}}{\text{total capital}}$$

Analysis of leverage is thus essentially analysis of borrowed capital, and the primary differentiation traditionally observed is that between short term debt and long term debt. The usefulness of this distinction in the study of financial risk rests upon the presumption that if the debt position becomes "unsound" and creditors consider the firm's obligations to them to be in jeopardy, they will take action, in protection of their interests, which may impair the firm's freedom of action and its prospective financial productivity. Soundness of the short term debt position is judged by application of the current, or "bankers'," ratio—probably the oldest of all credit tests—and the "acid test," and by comparison of their values with either rule-of-thumb standards generally considered to provide adequate margins of safety or with statistical norms for the industry in question. Doubts about the liquidity of such current assets as inventories and receivables may be resolved by calculating their turnovers and comparing the resulting values either with production cycles and credit terms or, again, with statistical norms for the industry in question.

Soundness of the long term debt[13] position is best judged by two types of tests: (a) those relating the debt to the book value of the long-lived assets which, presumably, the long term debt was incurred to finance and which, directly or indirectly, constitute the security for its discharge; and (b) those relating the earnings available for financial expenses to the financial expenses, commonly called "coverage" tests.[14] Values derived from such tests usually are compared, not with statistical norms for the particular industry in question, but with pragmatic rule-of-thumb standards which are presumed to be rather broad in their applicability. Individual analysts differ in detail as to the manner of applying the tests and as to the standards of comparison; but since the publication of Graham and Dodd's book on *Security Analysis* there has been very general agreement, at least in principle, among academic and professional analysts alike, with the views expressed therein.[15]

For analyzing the determinants of financial productivity, it is more significant to differentiate the elements of debt by their costs. In the aggregate

$$\text{cost of borrowed capital} = \frac{\text{financial expenses}}{\text{borrowed capital}}$$

but this, of course, is a composite of the costs of the elements. In the typical industrial firm today most of the debts which are of short maturity are also non-interest-bearing. More precisely, they bear no *explicit* interest, and it is usually considered not to be practically feasible to impute to them their *implicit* interest cost. These debt elements—e.g., open accounts and accrued expenses—are usually incurred under circumstances in which the cost of borrowing does not play a very significant part. They are not to be ignored as a leverage factor, however, since they constitute a source of borrowed capital which has the effect of magnifying fluctuations in financial productivity and also of magnifying the financial risk—if not by occasioning a fixed financial expense charge, at least by imposing a (potential) threat to the soundness of the current position.

The case of long term debts is more obvious since they nearly always occasion fixed financial expense charges which are quite explicit and therefore clearly magnify changes in financial productivity and financial risk. Whether in a particular firm the leverage policy is "profitable" may be judged at a glance by comparing business productivity either with the cost of borrowed capital or with financial productivity.[16] This concept must be used with caution, however, because a next step which might superficially appear to be logical—comparison of the rates on particular debt issues with over-all business productivity—is not valid. Even in theory, the proper analytical comparison would be between the costs of the increments of debt and *the marginal productivity of the resulting increments of assets;* but this meticulous refinement is feasible only in rare instances.

The factors discussed above in connection with analysis of financial productivity are interrelated as follows:

business productivity = net income / total capital
leverage = borrowed capital / total capital
cost of borrowed capital = financial expenses / borrowed capital
financial productivity = owners' earnings / owned capital

$$= \frac{\text{business productivity} - (\text{cost of borrowed capital} \times \text{leverage})}{1 - \text{leverage}}$$

That is to say, business productivity, leverage, and cost of borrowed capital, as defined, are the sole determinants of financial productivity.

Analysis of risk in the individual firm is important to the financial or investment manager because of the key role which risk plays in deriving value from prospective earnings. Business risk, the probability that business productivity will cease to be compensatory, is governed by the factors which govern business productivity, namely: activity of capital and efficiency of operation. These factors may be analyzed by differentiating asset components with respect to their anticipated useful lives, of revenues with respect to the derivation of demand in their sources, and of operating expenses with respect to the directness of their relation to the volume of business.

Financial risk, the probability that financial productivity will cease to be compensatory, is governed by the factors which govern financial productivity; namely, business productivity, leverage, and the cost of borrowed capital. The latter two factors may be analyzed by differentiating debt components with respect to their costs. All of these analytical operations may be carried out with data which are conveniently available and techniques which are familiar. It has been the purpose of this paper merely to show their interrelation by reference to the risk theory on which the analysis is based.

FOOTNOTES

1. A. S. Dewing, "The Financial Policy of Corporations" (New York: Ronald Press Co., 5th Ed., 1953), p. 288.

2. See, e.g., Alfred Marshall, "Principles of Economics" (London: Macmillan and Co., 1890), pp. 525, 622; W. H. Lyon, "Capitalization: A Book on Corporation Finance" (Boston: Houghton Mifflin Co., 1912), pp. 54-55; F. H. Knight, "Risk, Uncertainty and Profit" (Boston: Houghton Mifflin Co., 1921), pp. 197-232; C. O. Hardy, "Risk and Risk Bearing" (Chicago: University of Chicago Press, 1931), pp. 1-8; A. S. Dewing, "The Financial Policy of Corporations" (New York: Ronald Press Co., 3d Rev. Ed., 1934), p. 145; J. M. Keynes, "The General Theory of Employment, Interest and Money" (New York: Harcourt Brace and Co., 1936), pp. 144-145; H. H. Evans and G. E. Barnett, "Principles of Investment" (Boston: Houghton Mifflin Co., 1940), pp. 49-76; G. W. Dowrie and D. R. Fuller, "Investments" (New York: John Wiley & Sons Co., 1941), pp. 139-197; B. B. Howard and Miller Upton, "Introduction to Business Finance" (New York: McGraw-Hill Book Co., 1953), pp. 19-23; H. C. Sauvain, "Investment Management" (New York: Prentice-Hall, Inc., 1953), pp. 98-158.

3. Cf., e.g., the varying uses of "business risk" and "financial risk" in Marshall, op. cit., p. 525; Lyon, op. cit., pp. 54-55; Hardy, op. cit., pp. 1-8; Dowrie and Fuller, op. cit., p. 143; J. O. Kamm, "Economics of Investment" (New York: American Book Co., 1951), p. 205; Howard and Upton, op. cit.. pp. 19, 23; Sauvain, op. cit., p. 98; and J. C. Clendenin, "Introduction to Investments" (New York: McGraw-Hill Book Co., 2nd Ed., 1955), pp. 4-6; the varying uses of "internal risk" and "external risk" in Evans and Barnett, op. cit., pp. 59-60; Dowrie and Fuller, op. cit. (2nd Ed., 1950), pp. 109-113; and R. R. Pickett and M. D. Ketchum, "Investment Principles and Policy" (New York: Harper and Bros., 1954), pp. 262-264; and the identity of "personal risk" as used in Marshall, op. cit., p. 622, and "lender's risk" as used in Keynes, op. cit., p. 144, with "financial risk" as used in Lyon, op. cit., pp. 54-55.

4. Perhaps "normally" should be inserted here. In a period when large numbers of "investors" and, by extension, investment managers, seem to measure the success of their "investment" operations by their realized or unrealized market value appreciation based on inflation fear and game strategy, some may wonder whether the theory of economic productivity as the ultimate basis of investment value has become obsolete. The financial chaos which usually follows such periods, however, has a way of evoking revival of interest in it.

5. After deducting operating expenses (including capital consumption allowances) but before deducting interest or dividends. Whether income taxes are to be regarded as operating expenses or as distributions of net income is moot. The deductibility of explicit interest on borrowed capital in determining taxable income argues the latter treatment; the non-deductibility of implicit interest on owned capital argues the former. In the theoretical mileu this is a side issue, although as a practical matter the analyst must settle it one way or the other. In the illustrations in this paper, income taxes have been treated as operating expenses; but nothing about the principles discussed in the paper would be changed if they were to be treated as distributions of net income.

6. Omission of "prospective" from the labels on the components in this and subsequent ratio specifications implies only that as a practical matter historical data very likely will be utilized as the best available guide to the future. The real focus is on the prospective, however, and if better evidence of the future than historical data is available it should by all means be utilized.

7. Compare, e.g., R. H. Macy & Company, which in 1957 had a fixed (to total) asset ratio of 35% and (total capital) activity of 2.13 times a year, with Corning Glass Works, which had a fixed asset ratio of 50% and activity of 1.11 times, and with Dow Chemical, which had a fixed asset ratio of 66% and activity of only 0.85 times.

8. See, e.g., Radio Corporation of America, which in 1957 derived 72% of its revenues from the sale of radio and television equipment, the other 28% from broadcasting; General American Transportation Corporation, which derived 53% of its revenues from the sale, the remaining 47% from the rental, of freight and refrigerator cars; and Internatonal Business Machines Corporation, which derived 40% of its revenues from the sale, 60% from the rental and servicng, of office machinery.

9. In the physical sciences efficency is conceived as the ratio of output to input, the values yielded by such calculations (considering the law of conservation of energy and the inevitability of frictional losses in all energy transformations) being less than unity and thus more convenient than reciprocal values ranging to infinity. In financial analysis it has long been customary to measure efficiency by the ratio of input to output, no doubt because the values yelded by such calculations usually (considering the practical necessity of omitting some inputs—such as social costs—in accounting for the firm's net income) fall in the convenient range below unity.

10. Such as selling, general and administrative expenses; maintenance and repairs; capital consumption allowances (depreciation, depletion and amortization); taxes (except excise and payroll taxes); and rents and royalties. Of Boeing Airplane Company's total operating expenses in 1957 only 8% were indirect, of Coca-Cola Company's nearly 57%, and of International Business Machine Corporation's more than 66%.

11. See later discussion of financial leverage.

12. W. Hastings Lyon introduced the expression "trading on the equity" into American financial literature in his

"Capitalization: A Book on Corporation Finance" (1912), p. 50, to denote the policy of utilizing borrowed as well as owned capital in the firm's operation, adopting it from British usage. Except among academic authors, the expression has not found very wide acceptance, however, having been superseded, in the American vernacular, by "leverage" and in the English (at least with respect to investment trusts) by the more modern-sounding "gearing." These picturesque terms evoke a sharp mental image of the effect which borrowing at fixed interest and maturity value has upon the earnings on, and value of, the owned capital — multiplying or magnifying the impact (upon owned capital) of fluctuations in the earnings on, and value of, the total capital. Leverage has always been most common in the financial structures of the railroads and public utilities, but even among industrial firms today practically all have at least a little, and many have a great deal. Weyerhaeuser Timber Company, outstanding as one of the few remaining large firms to maintain almost the "New England Plan of Finance" (no debt at all), in 1957 utilized borrowed capital to the extent of only 7% of its total capital; Aluminum Company of America used 47%; and P. Lorillard Company used 65%.

13. Where preferred stock is cumulative and non-participating, as generally is the case today, its financial risk character (although not its legal character, to be sure) is more nearly that of borrowed, rather than owned, capital. It is therefore regarded as long term debt and its dividend requirements as financial expenses.

14. Invalidity of the "prior deductions" method of computing coverage—in which the financial expenses attributable to senior issues are deducted in arriving at the base for computing coverage of the financial expenses attributable to a junior issue—is now so widely recognized that it has virtually disappeared except in the short cut method commonly (and implicitly) employed when one mentally computes the coverage of preferred dividends by dividing the per share dividends into the per share earnings.

15. Benjamin Graham and D. L. Dodd, "Security Analysis" (New York: McGraw-Hill Book Co., 3d Ed., 1951), pp. 316-384. The first edition was published in 1934.

16. Aluminum Company of America in 1957 enjoyed business productivity of 6.9%, while its cost of borrowed capital was only 2.8%, the difference of 4.1% representing the "profit" on the 46% of total capital which was borrowed. Alternatively, the business productivity of 6.9% might be compared with the financial productivity of 10.4%, the difference of 3.5% representing the rate by which leverage "profit" added to the return on the 54% of the total capital which was provided by the owners.

MINNEAPOLIS GAS COMPANY

739 Marquette Avenue
Minneapolis 2, Minnesota

Common Stock Dividend

The Board of Directors of Minneapolis Gas Company, at a meeting held on October 13, 1959, declared a dividend of 37½ cents per share payable in cash on November 10, 1959, to common stockholders of record as of the close of business October 29, 1959.

G. T. MULLIN, President

RADIO CORPORATION OF AMERICA

Dividend Notice

The following dividends have been declared:

First Preferred Stock

87½ cents per share on the First Preferred Stock, for the period October 1, 1959 to December 31, 1959, payable January 2, 1960, to stockholders of record at the close of business December 7, 1959.

Common Stock

A quarterly dividend of 25 cents per share on the Common Stock, payable October 26, 1959, to stockholders of record at the close of business September 18, 1959.

ERNEST B. GORIN,
Vice President and Treasurer

New York, N. Y., September 4, 1959

Southern California Edison Company

DIVIDENDS

The Board of Directors has authorized the payment of the following quarterly dividends:

CUMULATIVE PREFERRED STOCK:

4.08% SERIES
Dividend No. 39
25½ cents per share;

4.24% SERIES
Dividend No. 16
26½ cents per share;

4.78% SERIES
Dividend No. 8
29⅞ cents per share;

4.88% SERIES
Dividend No. 48
30½ cents per share.

The above dividends are payable November 30, 1959, to stockholders of record November 5. *Checks will be mailed from the Company's office in Los Angeles, November 30.*

P. C. HALE, *Treasurer*

October 15, 1959

Edison

CONSOLIDATED NATURAL GAS COMPANY

30 Rockefeller Plaza
New York 20, N. Y.

DIVIDEND NO. 47

THE BOARD OF DIRECTORS has this day declared a regular quarterly dividend of Fifty-Two and One-Half Cents (52½¢) per share on the capital stock of the Company, payable November 16, 1959 to stockholders of record at the close of business October 15, 1959.

JOHN MILLER, *Secretary*

September 15, 1959

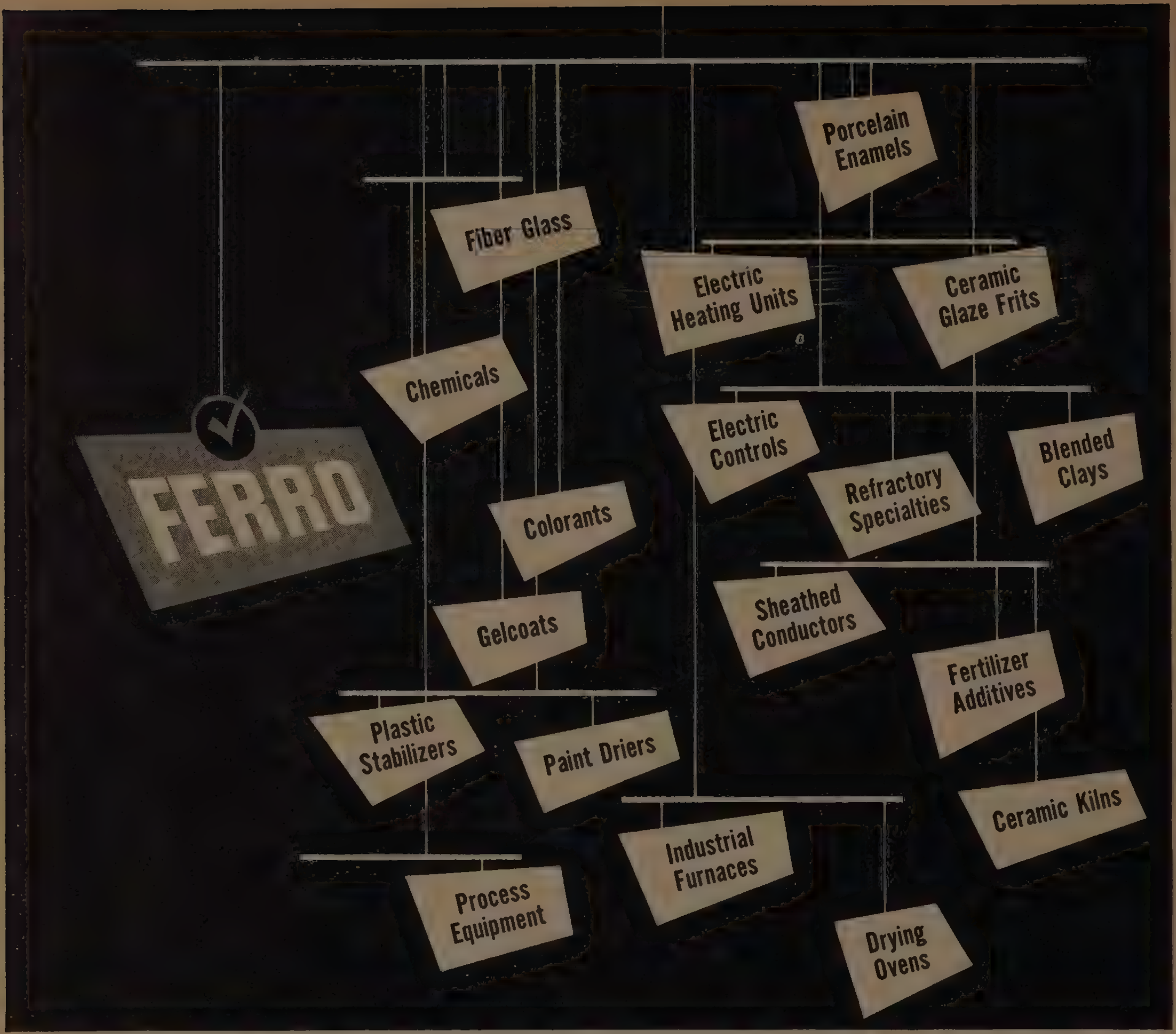
Harbison-Walker Refractories Company

Board of Directors has declared for quarter ending December 31, 1959 DIVIDEND OF ONE and ONE-HALF (1½%) PER CENT or $1.50 per share on PREFERRED STOCK, payable January 20, 1960 to shareholders of record January 6, 1960.

Also declared a DIVIDEND of $.45 per chare on COMMON STOCK, payable December 1, 1959 to shareholders of record November 10, 1959.

G. F. Cronmiller, Jr.
Vice President and Secretary

Pittsburgh, October 29, 1959



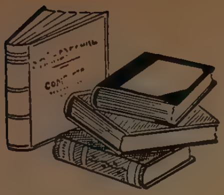
NINE MONTHS COMPARATIVE CONSOLIDATED SALES AND NET INCOME

	Nine Months Ended September 30	
	1959	1958
Consolidated Sales	**$47,424,000**	**$40,199,000**
Consolidated Income Before Taxes	$5,270,000	$2,513,000
Consolidated Income Taxes	2,672,000	1,241,000
Consolidated Net Income	**$2,598,000**	**$1,272,000**
Earnings Per Share on 737,191 Shares	**$3.52**	**$1.73**

(Outstanding September 30, 1959)

(The foregoing figures are subject to examination by our independent Certified Public Accountants.)

FERRO CORPORATION
4150 EAST 56TH ST. • CLEVELAND 5, OHIO



BOOK REVIEWS

THE EVALUATION OF COMMON STOCKS. By Arnold Bernhard. 182 pp. New York: Simon and Schuster, Inc. $3.95.

The author of this book, Arnold Bernhard, is founder and editor of the "Value Line Investment Survey", which is by a wide margin the most comprehensive mathematical evaluator of common stock prices available to American investors.

Mr. Bernhard feels that while most experts patiently amass a great deal of relevant factual matter upon which to base their decisions, the decisions themselves are largely undisciplined "guesstimates" based on intuition as to what a stock's price will or should be. The author holds that a dispassionate approach predicated on sound evaluations of past relationships between assets, earnings and prices will help to insulate the Analyst against the capital-shrinking price excesses resulting from alternating periods of abject pessimism and over-optimism.

He further cautions against inflation-hedging as a primary determinant in stock selection. He states that, inasmuch as prices have gone up, in spite of an over-supply of goods, and wage increases have outstripped productivity gains, we are experiencing more of the symptoms of a currency debasement than a classic inflation.

The author points out that the idea of a *general* price earnings ratio for all stocks (as an indication of over- or under-valuation) must be discarded because each stock has its *individual* ratio. Moreover, this individual price earnings ratio is not constant, but varies normally at different levels of earnings usually in inverse ratio to asset values particularly for cyclical stocks. While the theoretical price of a common stock should be equal to the sum of all future dividends discounted to the present interest rate, this value is meaningless, unless all future dividends can be calculated, which, of course, is rarely possible.

He suggests, therefore, that better investment results can be achieved through a disciplined approach to the subject of security evaluation and sets out several criteria which he uses as yardsticks:

Quality, which is measured as the component result of (1) an analysis of a stock's dividend paying potential in terms of its past earning and payout performance; and (2) price *stability* as determined from the relative spread between annual highs and lows over the period. A stability index and a growth index were statistically derived for each stock and were combined with the greater weight on stability to construct the quality index.

Appreciation Potential. In making this determination, the probable economic environment is hypothesized in terms of gross national product, disposable income, consumer expenditures, etc., over a three-year period three to five years hence. Sales, profit margins and dividends are then calculated for the subject company, based on its known performance, and a probable market price is computed as a logical expectation for the period.

It is pointed out that despite some unavoidable error creeping into forecasts of this economic environment-to-be, the relative potential of hundreds of stocks projected against a common background has measurable worth to the investor as a present indication of comparative values over the moderate long term.

Intrinsic Value. This is the calculation of a normal price for a particular stock over a 12-month period. It is statistically determined from the correlation and analysis of earnings and dividend paying ability.

Once this theoretical price has been estimated, the degree of under- or over-valuation is computed in comparison with the 52-week mov-

R. J. Reynolds Tobacco Company

Makers of
Camel, Winston, Salem & Cavalier
cigarettes
Prince Albert, George Washington
Carter Hall
smoking tobacco

QUARTERLY DIVIDEND

A quarterly dividend of 55c per share has been declared on the Common Stock of the Company, payable December 5, 1959 to stockholders of record at the close of business November 13, 1959.

W. J. CONRAD,
Secretary

Winston-Salem, N. C.
October 8, 1959

BOSTON EDISON COMPANY

Preferred Dividend

A quarterly dividend of $1.07 per share has been declared payable on the second day of November 1959 to holders of record at the close of business on October 9, 1959 of the Company's Cumulative Preferred Stock, 4.25% Series.

Preferred Dividend

A quarterly dividend of $1.20 per share has been declared payable on the second day of November 1959 to holders of record at the close of business on October 9, 1959 of the Company's Cumulative Preferred Stock, 4.78% Series.

Common Dividend No. 282

A quarterly dividend of 75 cents per share on the Common Stock of the Company has been declared payable on the second day of November 1959 to stockholders of record at the close of business on September 25, 1959.

Checks will be mailed from Old Colony Trust Company, Boston.

ALBERT C. McMENIMEN
Treasurer

Boston, September 14, 1959

Prime Industrial Sites Waiting!

Young, vital, bursting with energy, the St. Lawrence Valley offers newcomers exhilarating prospects for growth. Here's a region with every requirement for work and play...communications, power, schools, colleges, services and recreation...whose value has just been recognized. Already established as an aluminum reduction and processing center, the Valley has an assured future as a port, manufacturing site and distribution point for the northeast U. S. and southern Canada... itself an area of explosive growth.

Transportation. The Valley is North America's new front door, port for the Seaway which brings northern Canada, the U. S. and Europe closer together by days. Now building is a super-highway net to link the Valley with the metropolitan American belt stretching from Boston to Milwaukee.

Development of natural resources is well under way. Major iron and steel companies are operating mines in the area. Natural resources such as limestone, graphite, talc, lead and zinc are also being exploited. Hardwoods are abundant. A huge share of the area's milk production ... a billion-plus pounds a year ... is immediately available for industrial uses. Electric power is plentiful at low rates and the water supply is limitless ... the St. Lawrence River has the second largest water flow in the world (only the Amazon has more).

The business climate is favorable. People here are enthusiastic about industrialization. Labor-management relations are good and labor productivity extremely high.

Already established in the Valley are such industries as aluminum refining, automotive castings, paper and dairy products. Opportunities in related fields are plentiful, especially in woodworking, metallurgy, metal fabrication and the manufacture of electrical components. Sites, many of them on the River, are available. For specific information, contact the Director of Area Development, Niagara Mohawk Power Corporation, Dept. AJ-1, Erie Blvd. West, Syracuse 2, New York.

NIAGARA MOHAWK

ing average of the actual price at which the stock has been selling in order to determine probable market performance over the next 12 months.

Portfolio Selection. A rather novel method is set forth whereby the various ratings assigned individual stocks can be weighted so as to determine their suitability for inclusion in specific portfolios.

Reviewer's Recommendation:

The book is a "must" for the serious investor. No work so painstakingly prepared can be disregarded, particularly when the over-all performance records of Value Lines' November 1957-November 1958 recommendations, as set forth in the text, are so impressive. The reader will find quite a few recent (April 30, 1959) 12-month forecasts way off target, but the period is only half over and the markets no doubt will continue to fluctuate. Furthermore, the payoff in this business is in the averaged results, not the casual big hit-or-miss.

—*Reviewed by Donald H. Randell*

* * *

RAILROAD EQUIPMENT FINANCING. By Donald MacQueen Street. New York: Columbia University Press. 177 pp. $6.00.

As the first authoritative work on railroad equipment financing published since 1920, this excellent work deserves a place on the shelf of every Financial Analyst. The subject is treated competently and reflects considerable research on the part of the author.

Mr. Street carries us through historical by-ways showing us how this type of security gained increasing institutional acceptance over the years. Proper stress is given the legal phases of the equipment contract, with due emphasis as to how equipment trust certificates weathered one of the most severe credit contractions in the history of railroading. At one time, in the depression '30s, one-third of all Class I mileage was in the hands of the courts.

Mr. Street expands his subject in

treating of conditional sales contracts and lease arrangements, at the same time differentiating between these types of paper and actual equipment obligations.

Despite the excellent record of the various types of equipment obligations, Mr. Street concludes by raising the question whether the Symes proposal (governmental agency to purchase and then lease equipment to the railroads) will in any way eliminate this type of obligation as a means of financing future equipment purchases. He also properly asks whether total amount of equipment obligations outstanding—a better than five-fold increase over those outstanding during most of the depression 1930s—has lessened their inherent quality, and whether in any future period of financial stress, notwithstanding a cash flow in excess of annual maturities, they will give us as good an account of themselves as in the past.

One possible weakness in this otherwise excellent technical treatise is the failure to develop in greater detail the effect of more rapid equipment depreciation now sought by the railroads. For, should the carriers obtain Treasury approval to reduce the period of depreciation on diesels from 20 years (average of yard and freight combined), and of freight cars from 28 years to 15 years and 20 years, respectively, such a change might well require the shortening of the maturity from 15 years to 10 years or even less. This is especially true in the light of the cash flow now obtainable under the declining balance method of depreciation authorized by the Revenue Act of 1954.

Mr. Street furnishes the reader with valuable appendices, Appendix A reproducing the form of a Trust Certificate; Appendix B, the form of a Dividend Warrant; Appendix C, the form of a Guaranty; and Appendix D, the form of a Circular on Equipment Trust financing.

In the preparation of his material, the author worked closely with numerous underwriting houses, particularly with Salomon Bros. & Hutzler, of which firm our own efficient and ever kindly business manager, John Stevenson, himself an authority on equipment trust financing, is a valued partner.

(*Reviewed by Pierre R. Bretey*)

—More Reviews, next page

UNITED STATES LINES COMPANY
Common Stock DIVIDEND

The Board of Directors has authorized the payment of a dividend of fifty cents ($.50) per share payable December 4, 1959, to holders of Common Stock of record November 13, 1959.

WALTER E. FOX, *Secretary*
One Broadway, New York 4, N. Y.

THE CHECK THAT'S BEEN MAILED EVERY YEAR FOR 107 YEARS

There's something solid about Cincinnati . . . and the great industrial area of which it's the center. Here we have a steady growth of widely diversified industry. Here, you find one of the nation's most skilled labor forces . . . with pride in its exceptionally high productivity rate. And it's hard to imagine a more ideal location as a distribution center. All this has given the area's economy an enviable stability. It's not surprising that in such a community the Gas & Electric Company would reflect that *same* stability—with an unbroken record of stock dividends paid, every year, for 107 straight years.

The Ohio River, which carries 1½ times as much commercial tonnage as passes through the Panama Canal, is a great asset to the Cincinnati area. It will become even more important as the high lift dam program, now in progress, is completed.

THE CINCINNATI GAS & ELECTRIC COMPANY
107 years of unbroken dividend history

Still nothing else like it in the world of travel

The Turquoise Private Dining Room

Santa Fe

Super Chief

For an experience you'll cherish a lifetime, go Super Chief on your next trip between Chicago and Los Angeles. Plush surroundings. Famous people. Service in the grand manner. Obtain reservations at any Santa Fe Traffic Office or Travel Agent.

COMMON STOCKS AND BUSINESS CYCLES. By Edgar Lawrence Smith. 226 pp. New York: The William-Frederick Press. $10.

Mr. Smith's new book, heralded in a recent Fortune magazine article about "Those Delicious Growth Stocks", should arouse as much interest as his 1924 publication "Common Stocks as Long Term Investments".

This earlier effort, outlining the superior investment merits of well-selected stocks (as opposed to bonds) evoked some caustic comment during the 1929-1932 period. Subsequent events, however, have long since vindicated Mr. Smith's then somewhat "radical" theories.

This current work will inevitably evoke comparisons with the late great Wesley C. Mitchell's "Measuring the Business Cycle" and Leonard Ayres' "Turning Points in Business Cycles". While both Mitchell and Ayres concentrated on the study of cyclical patterns and characteristics, Mr. Smith poses some interesting theories as to the causative factors of cycles and the timing thereof. He points out that mass psychology is in a sense the one great imponderable in economic forecasting and/or investing and draws many provocative parallels between market behavior and variations in physical phenomena such as sunspot activity and patterns in rainfall and temperature.

At about this point in the text, your reviewer began to feel strange overtones between Mr. Smith's work and the labors of the ancient soothsayers who forecast the future by examining the entrails of sacrificial goats. However, Mr. Smith cannot be dismissed so lightly. He buttresses his arguments and ties his theory together very neatly with the strong thread of one unchallengeable truth.

He points out that ours is an economy based on credit; that credit is used and extended (or over-extended) in recurrent waves of widespread optimism, only to be contracted with its attendant violence and reverberations as the pendulum of sentiment inevitably swings back.

Any analyst knows how much simpler it is to estimate a given company's earnings over the intermediate term future than it is to gauge the multiplier by which the market will assess those earnings.

With the reward for even partial success so great, research into correlations between price movements and causative factors will continue. Mr. Smith's work will undoubtedly provoke further study along the paths he has pioneered. As a matter of fact, his comments upon the credit situation in 1956 and at present, now seem relevant indeed.

Incidentally, this book contains the soundest definition of money management this reviewer has yet seen. It is well worth repeating in full:

"The first object of investment is the protection of *capital values,* and these we shall not be able to protect unless we understand what they are. They are not dollars. The dollar is a symbol, a device by which the relative values of different things can be measured at a given time. The ownership of dollars represents a command over commodities and services at *current prices.* After the lapse of time—if the prices for the same commodities and services have increased—the real value of an investment will not have been conserved if it does not represent enough additional dollars still to command those same commodities and services.

"The bond promises delivery of a fixed number of dollars at a future date. The risk inherent in an investment in bonds lies in the question whether that number of dollars will buy as much or give as much satisfaction when the bond falls due as it gives today. In other words, the risk lies in the fluctuating purchasing power of the dollar itself.

"Investment management starts with a sum of money to be invested. Its foremost object is to invest this sum of money so that its purchasing power shall not be lost. After this first requirement has been safeguarded, it is appropriate to determine how much income or increase in purchasing power may be obtained by the judicious employment of the fund through investment in bonds and other maturing obligations or in stocks, selections in these broad classifications being dictated by current economic, industrial and credit conditions."

The author concludes:

"In order to protect the purchasing power of the invested fund, we must be aware of the nature of the hazards connected with investment in stocks. We must avoid them if possible. If it is not possible to avoid them, on account of the uncertainties of the future, we must balance one hazard against another, so that changes which would affect one class unfavorably would be to the advantage of the other class. This is insurance. And insurance of existing values through diversification is the essence of sound investment management."

(*Reviewed by Donald H. Randell*)

* * *

MODERN COMMODITY FUTURES TRADING. By Gerald Gold. New York: Commodity Research Bureau, Inc. 244 pp. $10.

This book makes an excellent supplement (though obviously it was not designed as such) to the articles about commodities currently being published by *The Analysts Journal*. It is quite a coincidence.

Author Gerald Gold is well equipped to handle the vast amount of interesting—and it could well be profitable — information contained within the covers of his book. The first paragraph to the foreword is worth reprinting verbatim. He says:

"A knowledge of commodity futures trading opens one of the few remaining fields in which vast profits can still be made by those who are speculatively inclined. It also offers unique profit protection facilities to 'trade accounts' (producers, dealers, processors and manufacturing end-users) who are astute enough to use futures markets as part of their regular business operations."

In the 22 chapters there is sufficient information to make a novice a commodity expert, and to make a commodity expert take time to peruse some phases in which he could become more knowledgeable.

* * *

LABOR-MANAGEMENT RELATIONS. By Charles Wiedemann. 142 pp. New York: Reinhold Publishing Corp. $3.75.

Here's another book in the "Reinhold Management Science Series," the first of which appeared just a year ago. (See *The Analysts Journal*, November, 1958.)

In this book, employer-employee relations are the principal concern. The book describes the make-up of the union organizer and negotiator. It emphasizes the importance of proper labor contract language, and debunks the mollifying approach to employees as a progressive management attitude. The union shop, "right to work" laws, the strike threat and grievance procedure are dealt with at length.

The book concludes with sound observations on arbitration and administration of the union contract.

ENOUGH TIME? By Eric Hodgins; drawings by Alan Dunn. Garden City, N. Y., Doubleday & Company, Inc. 102 pp. $2.50.

Even though "published with the cooperation of TIME, The Weekly Newsmagazine," here is a book that shouldn't have left the drawing boards. Billed as "The Pattern of Executive Life,"—and well it may be, probably is—it sheds as much light as a dead lamp in a coal mine, and is as interesting as last year's telephone book. Summing up: spent too much time reading "Enough Time?"

* * *

THE ELEMENTS OF STYLE. By William Strunk, Jr. New York: The Macmillan Company. 71 pp. $2.50.

Here's a book that is as old as some of our readers, and yet as up-to-date as the daily newspaper. Recently it was mentioned in the press by E. B. White, who perhaps is best known for his writings in *The New Yorker*. The book, in a new reprint, is being mentioned briefly here as so many Analyst members are required to write reports and articles from time-to-time, and of course many Analysts are authors of weekly let-

AIR REDUCTION
Company Incorporated
AIRCO 170th CONSECUTIVE
COMMON STOCK DIVIDEND

The Board of Directors has declared a regular quarterly dividend of 62½¢ per share on the Common Stock of the Company, payable on December 5, 1959 to holders of record on November 18, 1959, and the thirty-first regular quarterly dividend of $1.125 per share on the 4.50% Cumulative Preferred Stock, 1951 Series, of the Company, payable on December 5, 1959 to holders of record on November 18, 1959.

October 28, 1959

T. S. O'BRIEN, *Secretary*

FEDERAL

FEDERAL PAPER BOARD CO., Inc.
Common & Preferred Dividends:

The Board of Directors of Federal Paper Board Company, Inc. has this day, declared the following quarterly dividends:

50¢ per share on Common Stock.
28¾¢ per share on the 4.6% Cumulative Preferred Stock.

Common Stock dividends are payable October 15, 1959 to stockholders of record at the close of business September 29,1959.

Dividends on the 4.6% Cumulative $25 par value Preferred Stock are payable December 15, 1959 to stockholders of record November 30, 1959.

ROBERT A. WALLACE
Vice President and Secretary

September 15, 1959
Bogota, New Jersey

IBM
179TH CONSECUTIVE
QUARTERLY DIVIDEND

The Board of Directors of International Business Machines Corporation has today declared a quarterly cash dividend of $.60 per share, payable Dec. 10, 1959, to stockholders of record at the close of business on November 10, 1959.

C. V. BOULTON,
Treasurer

590 Madison Avenue
New York 22, N. Y.
October 27, 1959

IBM®
INTERNATIONAL BUSINESS MACHINES CORP.

ters. The October issue of Fortune, in fact, published an article titled "Those Wall Street Letters."

And the authors of many of these letters will, we believe, find "The Elements of Style" not only interesting, but editorially profitable. It is dedicated to all of us who strive to write effectively and well.

* * *

THE WHEELER DEALERS. By George Goodman. Garden City, N. Y.: Doubleday & Company, Inc. 288 pp. $3.95.

This Wall Street novel might well be sub-titled "Comic Relief for the Tired Financial Analysts." The heroine is president of the "New York Society of *Lady* Security Analysts." (Of course there is no such organization.)

Replete with financial jargon, and set in the familiar spots where money is made and where money is spent, *The Wheeler Dealers* provides moderate entertainment for those who don't wish to stray too far from the counting houses—even when relaxed.

Someone has said that a profession doesn't "become of age" until it is served up as a parody in book form. If so, the Security Analysts —at least those on the distaff side— have now reached maturity.

FLINTKOTE

Manufacturer of the Broadest Line of Building Products in America

THE FLINTKOTE COMPANY
New York 20, N. Y.

quarterly dividends
have been declared as follows:

Common Stock*
45 cents per share

$4 Cumulative Preferred Stock
$1 per share

$4.50 Series A Convertible Second Preferred Stock
$1.12½ per share

These dividends are payable December 15, 1959 to stockholders of record at the close of business November 20, 1959.

JAMES E. McCAULEY
Treasurer

November 4, 1959.

*125th consecutive dividend

Dividend No. 61

Interlake Iron Corporation has declared a dividend of 35 cents per share on its common stock payable Sept. 30, 1959, to stockholders of record at the close of business Sept. 15, 1959.

Vice President & Treas.

Interlake Iron
CORPORATION
CLEVELAND, OHIO
Plants: Beverly, Chicago, Duluth, Erie, Jackson, Toledo

REGULAR QUARTERLY DIVIDEND

The Board of Directors has declared this day
COMMON STOCK DIVIDEND NO. 101
This is a regular quarterly dividend of

25¢ PER SHARE

Payable on November 16, 1959 to holders of record at close of business October 20, 1959

Milton C. Baldridge
Secretary
October 8, 1959

COLUMBIA GAS SYSTEM

THE COLUMBIA GAS SYSTEM, INC.

UNION CARBIDE

NEW YORK, October 28, 1959—the Board of Directors of Union Carbide Corporation has today declared a Quarterly Dividend of ninety cents (90¢) per share on the outstanding capital stock of the Corporation, payable December 1, 1959 to stockholders of record Nov. 6, 1959. The last Quarterly Dividend was ninety cents (90¢) per share paid September 1, 1959.

Payment of this Quarterly Dividend on December 1 will make a total of $3.60 per share paid in 1959. In 1958, $3.60 per share was also paid.

JOHN F. SHANKLIN
Secretary and Treasurer
UNION CARBIDE CORPORATION

In Memoriam

John A. Milburn, 55, a partner with Hecker & Co., and a member of the Financial Analysts of Philadelphia, died Sept. 19. He was a graduate of the U. S. Naval Academy and served as a commander in World War II. Mr. Milburn was a member of the board of managers and a former trustee of the Naval Academy Alumni Association. He held memberships in the stock exchanges of Philadelphia, Baltimore and the American Stock Exchange. He leaves his wife, the former Virginia Blackistone; a son, Charles; and a daughter, Virginia.

Cameron Ives, an Analyst with the New England Mutual Life Insurance Co., died last month at his Boylston Street home in Boston. Mr. Ives was a member of the Boston Security Analysts Society.

Homer L. Ferguson, Jr., Davenport & Company, and a member of The Richmond Society of Financial Analysts.

A. Norman Bennett, general partner in charge of research for Stern, Frank, Meyer & Fox, and a member of The Los Angeles Society of Security Analysts.

W. H. Van Benschoten, investment counselor for the Los Angeles Orthopaedic Foundation, and a member of the Los Angeles Society of Security Analysts.

Vivian A. Fletcher of South Sudbury, Mass., and a member of The Boston Security Analysts Society.

John H. Weedon, First National Bank of Chicago, and a member of The Investment Analysts Society of Chicago. Mr. Weedon was past president of the Chicago Society and one of the charter members when it was founded in 1925.

For Better Mail Service:
Use ZONE NUMBERS — they're part of your address —include them in your RETURN address!

The Printed Word: Spritely

An Editorial Observation

It takes a lot these days to shock us, or even rock us on our heels. In fact, anyone in today's world of business and finance must, perforce, have a thick skin. And maybe this is all just another indication of "the changing times". We're referring to slang words and phrases as well as comic-relief cartoons in some of the world's leading stately publications.

And while we're accustomed to seeing "hell" and "damn" turn up regularly in the news and editorial columns of the august New York Times; and while we're occasionally amazed at other spritely copy in Time and Fortune magazines—not to mention amusing line-drawings—we almost dumped a cup of afternoon tea, recently, to see London's staid Economist publish—and reprint in bold-face on the front cover—an article titled (hold on to your hats) "Why the Hell Not?"

My, my, those umbrella-toting, black-spectacle-wearing, warm whiskey-drinking British cousins of ours, are getting a bit earthy. And, well, maybe, that is . . . why the Hell not! With so much going into orbit, maybe the written word won't suffer with a bit of embellishing.

CORPORATE EARNING POWER AND MARKET VALUATION, 1935-1955

by Sidney Cottle & Tate Whitman

A "cross-section" study of 150 American companies in a 21-year period . . . providing investors and management with consistently developed "yardstick" data for appraising the relative earning power and market performance of America's leading industries.

$12.50 from your bookseller or from

DUKE UNIVERSITY PRESS • DURHAM, N. C.

IT'S THE LAW!

All companies listed on the New York Stock Exchange must have a transfer agent and registrar residing at an address south of Chambers Street, in New York City.

This law, which has been in effect for several decades, leads to the inescapable conclusion that headquarters of a New York investment house is "within a stone's throw of the New York Stock Exchange."

A company's alternative is to arrange with a New York bank to have certificates picked up or delivered within a specific space of time.

* * *

"Our antiquated and totally unrealistic tax laws, particularly the capital gains levy, have caused investors to lock up billions of dollars' worth of stock, rather than pay the whopping capital gains tax penalty leveled against successful investments." — *G. Keith Funston, President, New York Stock Exchange.*

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233), SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

THE ANALYSTS JOURNAL, published five times annually at New York, N. Y., for November 1, 1959.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher.
THE NATIONAL FEDERATION OF FINANCIAL ANALYSTS SOCIETIES, 82 Beaver Street, New York 5, N. Y.

Editor, PIERRE R. BRETEY,
25 Broad Street, New York 4, N. Y.

Managing Editor, WARREN BURNS,
82 Beaver Street, New York 5, N. Y.

Business Manager, JOHN STEVENSON,
60 Wall Street, New York 5, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

The National Federation of Financial Analysts Societies,
82 Beaver Street, New York 5, N. Y.

A. Hamilton Bolton, President,
680 Sherbrooke St. West, Montreal, Canada.

Jeremy C. Jenks, Executive Vice President,
115 Broadway, New York City.

George M. Hansen, Executive Secretary & Treasurer,
331 Auburndale Avenue, Auburndale 66, Mass.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are:

None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

WARREN BURNS,
Managing Editor

Sworn to and subscribed before me this 8th day of October, 1959.

(SEAL)

ROSALIE F. McGLEW
Notary Public, State of New York.
No. 30-7833000. Qualified in Nassau County.
Certs. filed in New York County Clk. & Reg.
Term expires March 30, 1960.

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American Metal Climax, Inc.

COMMON STOCK

Dividend No. 136

The Board of Directors has declared a dividend of Thirty Cents (30¢) per share on the Common Stock payable December 1, 1959 to stockholders of record at the close of business on November 20, 1959.

D. J. DONAHUE,
Treasurer.

COMMON STOCK DIVIDEND

The Board of Directors of Central and South West Corporation at its meeting held on October 7, 1959, declared a regular quarterly dividend of forty-five cents (45c) per share on the Corporation's Common Stock. This dividend is payable November 30, 1959, to stockholders of record October 23, 1959.

LEROY J. SCHEUERMAN
Secretary

CENTRAL AND SOUTH WEST CORPORATION
Wilmington, Delaware

GOOD YEAR

The Board of Directors today authorized splitting of the Common Stock on a three-for-one basis, to be effected by issuing, on or about December 28, 1959, additional shares to shareholders of record at the close of business November 16, 1959, and declared the following dividends:

COMMON DIVIDEND NO. 106
67½ cents per share on the common stock, payable December 15, 1959 to stockholders of record at the close of business November 16, 1959 on shares then outstanding before giving effect to the three-for-one split.

STOCK DIVIDEND
a 2 per cent common stock dividend on the split shares, to be distributed on or about December 28, 1959 to stockholders of record at the close of business November 16, 1959.

The Goodyear Tire & Rubber Co.
By Arden E. Firestone,
Secretary
November 4, 1959

THE GREATEST NAME IN RUBBER

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237th CONSECUTIVE QUARTERLY DIVIDEND

50 cents per share . . . Payable December 15, 1959 . . . Record date November 20, 1959

W. P. CAIRO, Secretary
November 4, 1959

ESB **THE ELECTRIC STORAGE BATTERY COMPANY**

THE DAYTON POWER AND LIGHT COMPANY
DAYTON, OHIO

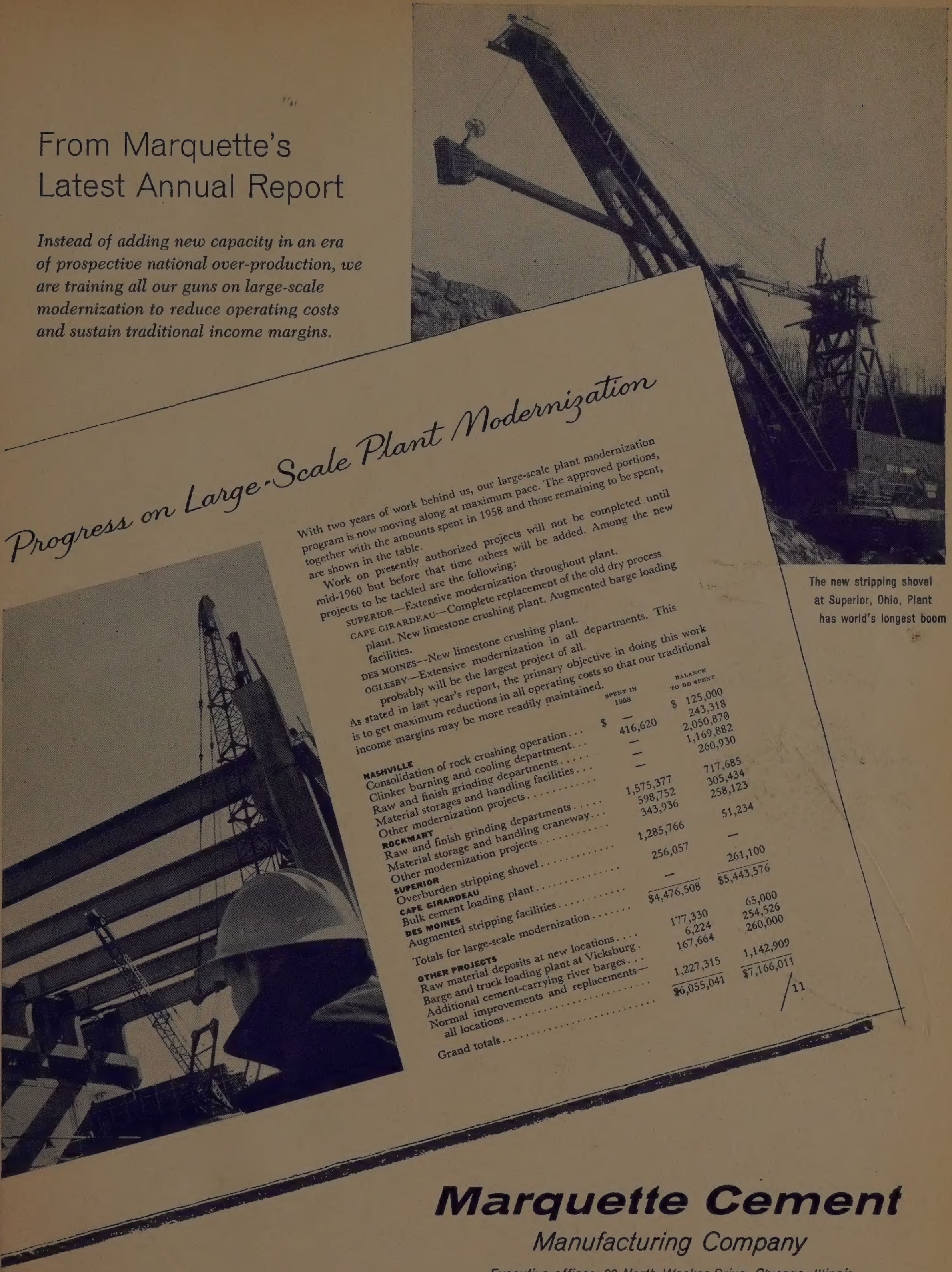
149th Common Dividend

The Board of Directors has declared a regular quarterly dividend of 60c per share on the Common Stock of the Company, payable on December 1, 1959 to stockholders of record at the close of business on November 16, 1959.

GEORGE SELLERS, Secretary
November 6, 1959

From Marquette's Latest Annual Report

Instead of adding new capacity in an era of prospective national over-production, we are training all our guns on large-scale modernization to reduce operating costs and sustain traditional income margins.



The new stripping shovel
at Superior, Ohio, Plant
has world's longest boom

Progress on Large-Scale Plant Modernization

With two years of work behind us, our large-scale plant modernization program is now moving along at maximum pace. The approved portions, together with the amounts spent in 1958 and those remaining to be spent, are shown in the table.

Work on presently authorized projects will not be completed until mid-1960 but before that time others will be added. Among the new projects to be tackled are the following:

SUPERIOR—Extensive modernization throughout plant.

CAPE GIRARDEAU—Complete replacement of the old dry process plant. New limestone crushing plant. Augmented barge loading facilities.

DES MOINES—New limestone crushing plant.

OGLESBY—Extensive modernization in all departments. This probably will be the largest project of all.

As stated in last year's report, the primary objective in doing this work is to get maximum reductions in all operating costs so that our traditional income margins may be more readily maintained.

	SPENT IN 1958	BALANCE TO BE SPENT
NASHVILLE		
Consolidation of rock crushing operation . . .	$ —	$ 125,000
Clinker burning and cooling department. . .	416,620	243,318
Raw and finish grinding departments	—	2,050,870
Material storages and handling facilities . . .	—	1,169,882
Other modernization projects	—	260,930
ROCKMART		
Raw and finish grinding departments	1,575,377	717,685
Material storage and handling craneway . . .	598,752	305,434
Other modernization projects	343,936	258,123
SUPERIOR		
Overburden stripping shovel	1,285,766	51,234
CAPE GIRARDEAU		
Bulk cement loading plant	256,057	—
DES MOINES		
Augmented stripping facilities	—	261,100
Totals for large-scale modernization	$4,476,508	$5,443,576
OTHER PROJECTS		
Raw material deposits at new locations	177,330	65,000
Barge and truck loading plant at Vicksburg .	6,224	254,526
Additional cement-carrying river barges . . .	167,664	260,000
Normal improvements and replacements—all locations	1,227,315	1,142,909
Grand totals	$6,055,041	$7,166,011

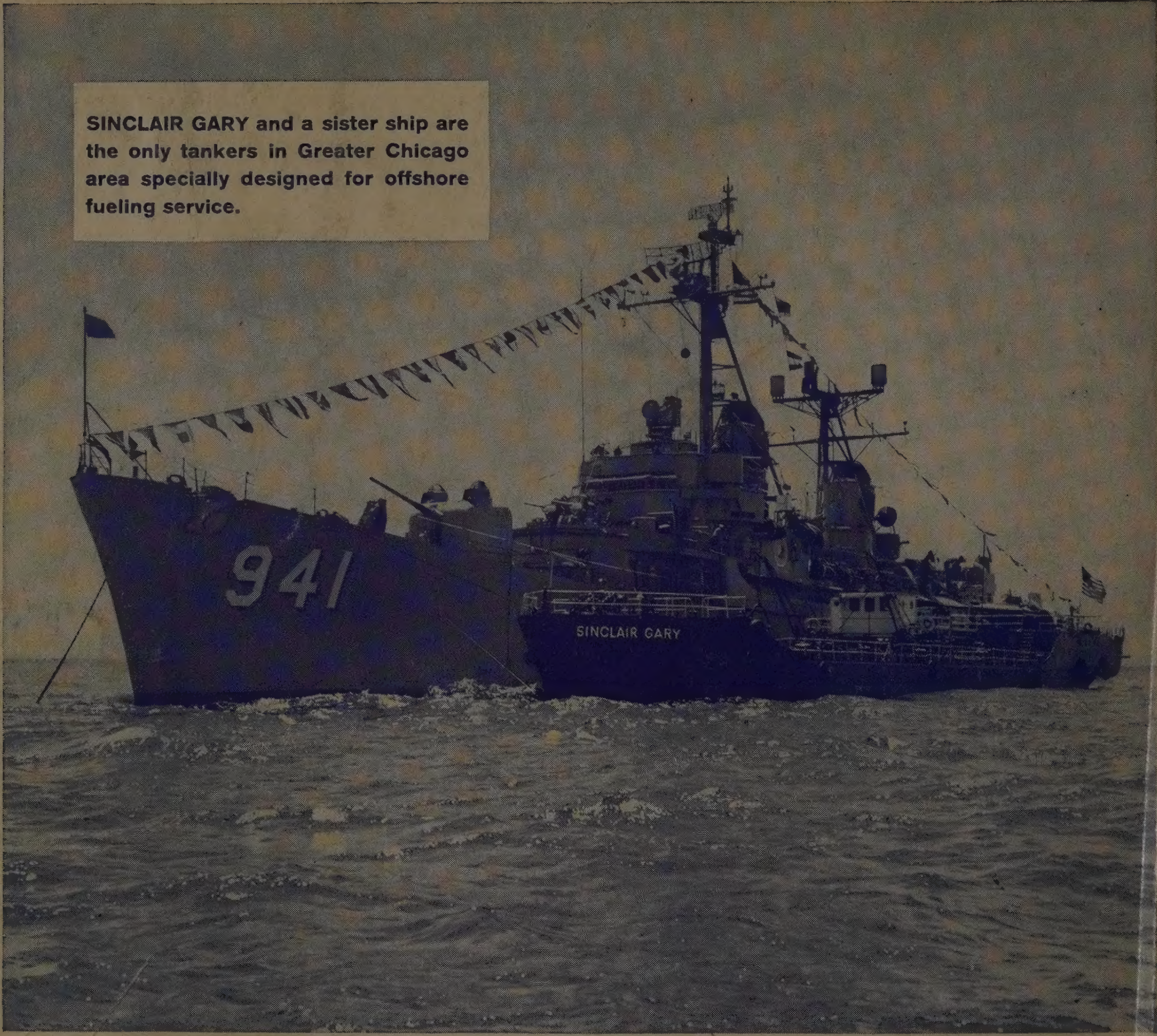
Marquette Cement

Manufacturing Company

Executive offices: 20 North Wacker Drive, Chicago, Illinois

Operating ten cement producing plants in Illinois, Iowa, Ohio, Missouri, Georgia, Tennessee, Mississippi and Wisconsin

Annual capacity
16,620,000 barrels



SINCLAIR GARY and a sister ship are the only tankers in Greater Chicago area specially designed for offshore fueling service.

Only Sinclair Could Quench This Navy Thirst

This year, for the first time, deep-water ships of the U. S. Navy sailed the Great Lakes. A task force of 22 vessels visited important ports on a special training mission. And, having traveled light to pass through the new Seaway, 22 ships were thirsty for fuel by the time they dropped anchor at Chicago, far from home base.

To quench this thirst *the Navy called on Sinclair Refining Company*, the only supplier equipped to make volume deliveries offshore. In a round-the-clock operation, 2,500,000 gallons of heavy oil were pumped into ships' bunkers. The task force sailed on schedule.

The ability of its marketing subsidiary to deliver quality products with the most modern equipment is one reason why Sinclair Oil Corporation, measured by total assets, is the *nation's sixteenth largest industrial company.*

Sinclair

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